LifeFitness

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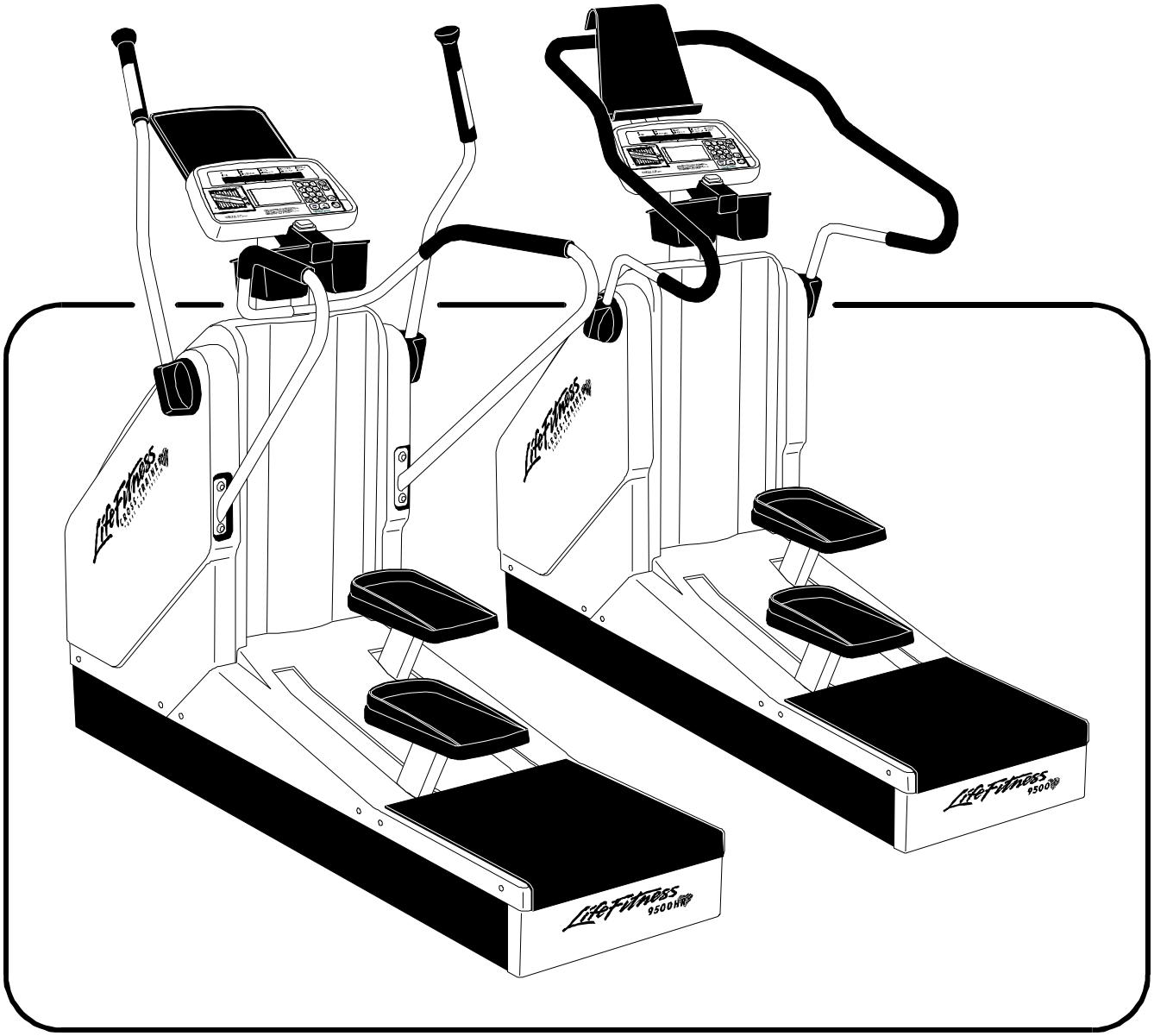
Life Fitness Model 9500 Series Cross-Trainers



Customer Support Services

SERVICE MANUAL

Life Fitness Model 9500 Series Cross-Trainers

INTRODUCTION

HOW TO USE THIS SERVICE MANUAL AND CONTACT CUSTOMER SUPPORT SERVICES

Note: This service manual is applicable to Life Fitness model 9500 Lower Body and 9500HR Total Body Cross-Trainers.

The Service Manual provides instruction, guidance and recommendations on safe and efficient approaches to repair and adjustment situations. The Manual is separated into six sections.

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When an operating problem occurs, refer to troubleshooting guides and diagnostic tests in an attempt to isolate the cause. When applicable, guides and tests are listed by symptom followed with suggestions of probable cause(s).

Once you have pinpointed the source of the problem, refer to "How To..." guides for recommended repair procedures. "How To..." sub-sections are organized by replaceable part or assembly name. For convenience, sub-section lists recommended “Tools Required” to complete each specific function.

Refer to the PARTS IDENTIFICATION section to identify proper name and number of part to order for repair of equipment.

A reproducible telefacsimile order claim form is provided in COMMUNICATING BY TELEFACSIMILE for convenient ordering of service parts.

To order, contact Life Fitness Customer Support Services.
Via telefacsimile - 24 hrs. /day, 7 days/week.
Via telephone - Monday through Friday from 8:00 AM to 6:00 PM (C.S.T.).

To speed Life Fitness Customer Support Services response to your needs, please be prepared to provide the following information to the phone technician.

1. Model number
2. Serial number
3. Symptom of problem
4. Part name and number to order (if known)

CUSTOMER SUPPORT SERVICES
10601 Belmont Avenue; Franklin Park, IL 60131; U.S.A.

Life Fitness Rely on it.™

Telephone: 847.451.0036 or Toll Free 800.351.3737 Telefacsimile: 847.288.3702 or Toll Free 800.216.8893

Life Fitness Model 9500 Series Cross-Trainers

THEORY OF OPERATION

The electronics system of the CT-9500 Series Cross-Trainers, is made up of three distinct modules, the Power Entry Module, the Display Console, and the Power Control Board.

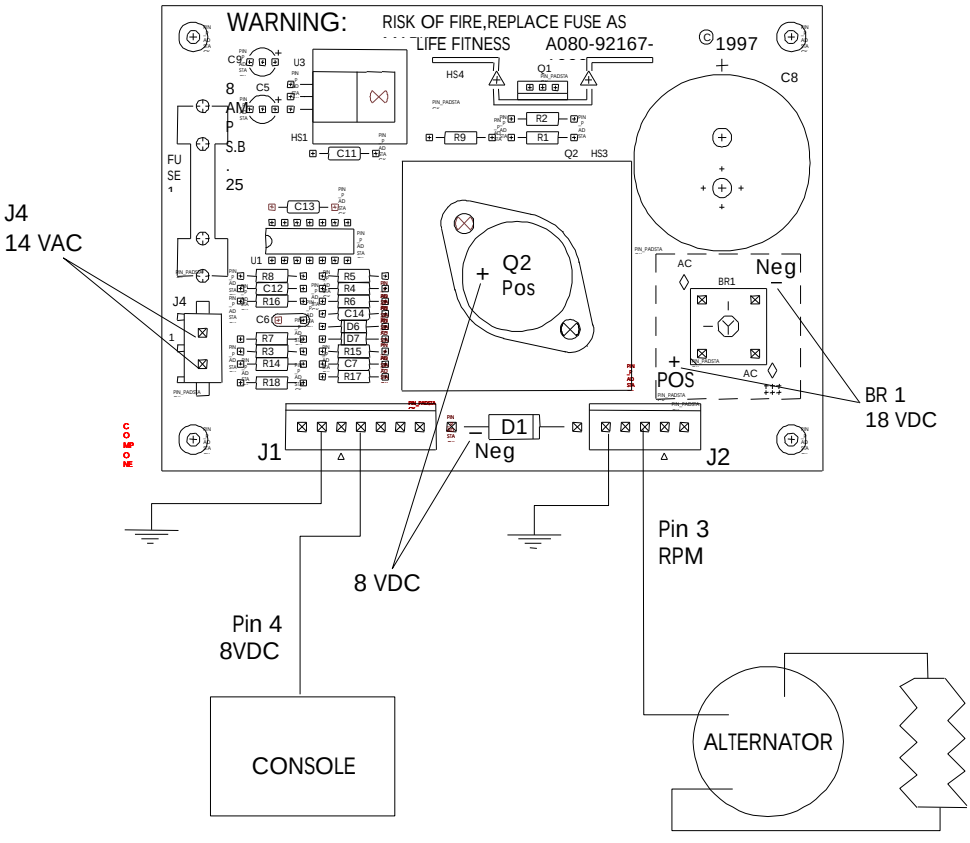
120 volts AC enters the Power Entry Module. It passes through a transformer and is converted to 14 volts AC. The 14 volts AC is applied to the Power Control Board at connector J4, pins 1 and 2. The voltage passes through a bridge rectifier, BR1 and is converted to an unregulated positive DC voltage. This unregulated voltage will vary from 11 volts DC to 18 volts DC depending on the wall supply and load. This voltage can be measured by placing the positive probe of your DVM on Positive Test Point at BR1 and the negative probe on the negative Test Point at BR1.

The other voltage developed on the Power Control Board is a regulated positive 8 volts DC. The regulated 8 volts DC is developed by transistor (Q2) . This voltage can be measured by placing the positive probe of your DVM on the collector(case) of Q2 and the negative probe on the anode of D1.

This 8 volts DC is supplied to the Console at connector J1, pin 4 and is used to power the LED's. The 8 volts DC is also used as a supply voltage for the positive 5 volt DC regulator (U1) on the Console board, which is VCC for the Microprocessor. The Keypad entry (user's input), Life Pulse (9500HR only), Telemetry, and the Stop Switch functions are all processed by the Microprocessor.

The Console, by pulse width modulating the field control line, sends a signal to the Power Control Board at J1, pin 1. The Power Control Board switches the field current to the Alternator, through Q1. This field current along with the energy supplied by the user is sent to the Load Resistors. This places resistance on the rotation, thus providing the load sensation felt by the user.

The Alternator also provides the source for the RPM sensor circuit. The AC tap output on the Alternator enters the Power Control Board at J2, pin 3. This AC voltage is wave conditioned and outputted at connector J1, pin 2 to the Console connector P2, pin 6. Where it is processed and displayed by the Console.



See Wiring Diagram for more detailed

Life Fitness Model 9500 Series Cross-Trainers

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GK53-00013-XXXX SN 685000 - UP 7
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M051-00K53-B011
11-2000

SECTION I

TROUBLESHOOTING GUIDES

Malfunction	Probable Cause	Corrective Action
Loud thumping noise when pedal levers rotate under load.	Pulleys misaligned.	Loosen the pillow block bearing, align the pulleys and then retighten the pillow block bearings.
Rubbing/whining noise when pulleys are rotating.	Dirt build up in pedal rails.	Clean and remove dirt build up.
	Rear roller wheels frozen.	Clean and lubricate with non detergent oil.
	Link or Pedal Lever is contacting heatshield.	Reposition heat shield or replace.
Metal noise on rotation.	Faulty intermediate shaft assembly.	Replace intermediate shaft assembly.
Grinding.	Faulty pillow block.	Replace pilow blocks on crankshaft.
	Alternator.	Relieve tension on alternator, spin flywheel for smoothness. If thumping occurs, faulty alternator. Replace alternator.
Rubbing/squeaking.	Bearings at pivot points out of position or dirty.	Clean all sleeves in the linkage pivot areas and lubricate with non detergent oil.
Knock/thumping occurs 180° apart in rotation.	Setscrews in crank arm assembly are loose.	Loosen setscrew and clamping screw in crank arm assembly. Place blue Locktite® (242) on screws. Tighten setscrew first to set keyway, then tighten clamping screw.
	Small extension arm bolt loose.	Replace small extension arm kit.
	Link or Pedal Lever is contacting the heat shield.	Reposition or replace the heat shield.
Drive Belt slipping.	Loose or worn drive belt.	Adjust the tension on the idler pulley tension bolt of the U-Tension Bracket (See How To...). Rotate pulley and check the tension. Belt tension should be 170 FT LBS for new belt and 160 FT LBS if installing existing belt. If a J10 belt gauge is not available. Adjust to a 1/4" (7mm) deflection.
Upper Arms slip.	Bolts that connect the upper and lower arms is loose.	Adjust and tighten to a torque of 105 FT. LBS.

Malfunction	Probable Cause	Corrective Action
Front to back play in pedal / arm.	Worn bearings.	Check for front to back movement in bearings that connect pedal lever and crank arm or in the 14" link. Replace linkage bearing assembly.
	Poly-V pulley on intermediate shaft is loose.	Replace intermediate shaft assembly (See How To...).
	Crank Arm is loose.	Loosen set screws and clamping screw in Crank arm Assembly. Place blue Locktite® 242 on screws. Tighten set screws first and then tighten the clamping screw.
Alternator belt slipping.	Loose or worn alternator belt	Inspect for damage: replace alternator belt if necessary. Adjust tension (See How To...).
No Power.	Verify unit is turned on.	Turn on at the ON/OFF switch.
	Line cord damaged.	Inspect AC line cord, verify no damage.
	Damaged cable.	Inspect all cables for damage.
	Circuit breaker blown.	Reset circuit breakers. Replace if needed.
	Fuse on control board is blown.	Replace control board.
	Faulty entry module.	Using a voltmeter, verify 14 v AC is at J4 on the power control board. Replace entry module.
	Faulty power control board.	Using a voltmeter, verify 8 V DC at J1 pin 4 and 7 (see wiring diagram).
Not reading heart rate.	Cable connection.	Disconnect and reconnect display console cable connection
	Pinched cable in RT/LT side.	Remove shroud caps and inspect cables. Replace damaged cable. Inspect cable to make sure the right side cable is on the users right, and the left is on the left side.
	Not communicating with DSP board.	Enter diagnostic, see if DSP and monitor version are displayed. If not displayed, replace DSP board.

Malfunction	Probable Cause	Corrective Action
Erratic heart rate.	User's hands are not making proper contact.	Verify hands are contacting entire sensors.
	Sweat is causing hands to slip	Wipe hands and sensors.
	Bad connection.	Sensor loose or falling off. Replace Life Pulse digital sensor with kit. Remove handlebar shroud caps and verify cable connection.
	Cross talk from telemetry receiver.	Verify position of Cross-Trainer is proper distance from other telemetry equipped equipment. See installation instructions or operation manual. Turn telemetry off from diagnostics and test Life Pulse sensor separately. Check for corrosion on connectors. Disconnect and connect telemetry receiver. Call Customer Support Service.
No LED.	Cable connection.	Remove display console and verify cable is properly plugged into console.
	8 vdc supply for LED.	Using a voltmeter, measure for 8 vdc at console cable connection. See wiring diagram for pin configuration.
	8 vdc supply not present at cable.	Using, measure for 8 vdc at power control board connection, J1. See wiring diagram pin configuration.
	No 8 vdc at J1.	Faulty power control board. Replace power control board.
No RPM. Unit shuts off one minute into program.	Bad cable connection.	Verify cables connections at console to PCB (J1), and PCB to alternator (J2). Disconnect and re-connect cables. Using a voltmeter, verify cable continuity on console to PCB and PCB to alternator.

Malfunction	Probable Cause	Corrective Action
Alternator belt tension.	Loose alternator belt.	Check tension. New belt should be tensioned to 90 FT LBS. Existing belt at 80 FT LBS. If gauges are not available, set to 1/4" (6mm) deflection.
	Faulty alternator.	Enter diagnostic to the field duty cycle and increase the load. If load does not increase, replace alternator.

SECTION II

DIAGNOSTIC MODES

To access Diagnostic State 1, press and hold down the number 5 key while pressing the CLEAR/PAUSE key twice.

Press the START/ENTER key to scroll forward through each programs. Press the CLEAR/PAUSE key to scroll back to a previous program or to exit when back in Diagnostic State 1.

To exit Diagnostics, press the CLEAR/PAUSE key to return back to Diagnostic State 1, then press CLEAR/PAUSE again to exit back to the user display.

To verify the LifePulse ELECTRODES are functioning, grasp each handlebar and begin to stride. The heart-shaped LED will illuminate followed by the heart rate reading.

FIELD DUTY CYCLE and ALTERNATOR TEST: The FIELD DUTY CYCLE is displayed in the CALORIES/HOUR window. The field duty cycle ranges between 6 and 100. Adjust to the appropriate value using the UP ARROW to increase or the DOWN ARROW to decrease. To test the ALTERNATOR, increase the field duty cycle to a higher number. The tension should increase. When testing is completed, use the DOWN ARROW to return the field duty cycle to six.

To test the alternator, increase the field duty cycle value using the up arrow, or down arrow to decrease the field duty cycle value.

HEART RATE PROGRAM: The heart rate program version is displayed in the ELAPSED TIME window while the heart rate DSP version is displayed in the SPEED window.

LIFECENTER MESSAGES are visible In the CAL/HOUR window and appear as follows:

CAL/HOUR	DESCRIPTION
NONE	No LIFELINK board detected
NULL	Board detected but not communicating
ON	Linked to LIFECENTER
OFF	Linked to LIFECENTER

PROGRAM DURATION: To set the program duration, press the START/ENTER key. Use the UP ARROW to increase time and the DOWN ARROW to decrease time. Times can be set from 10 to 99 minutes.

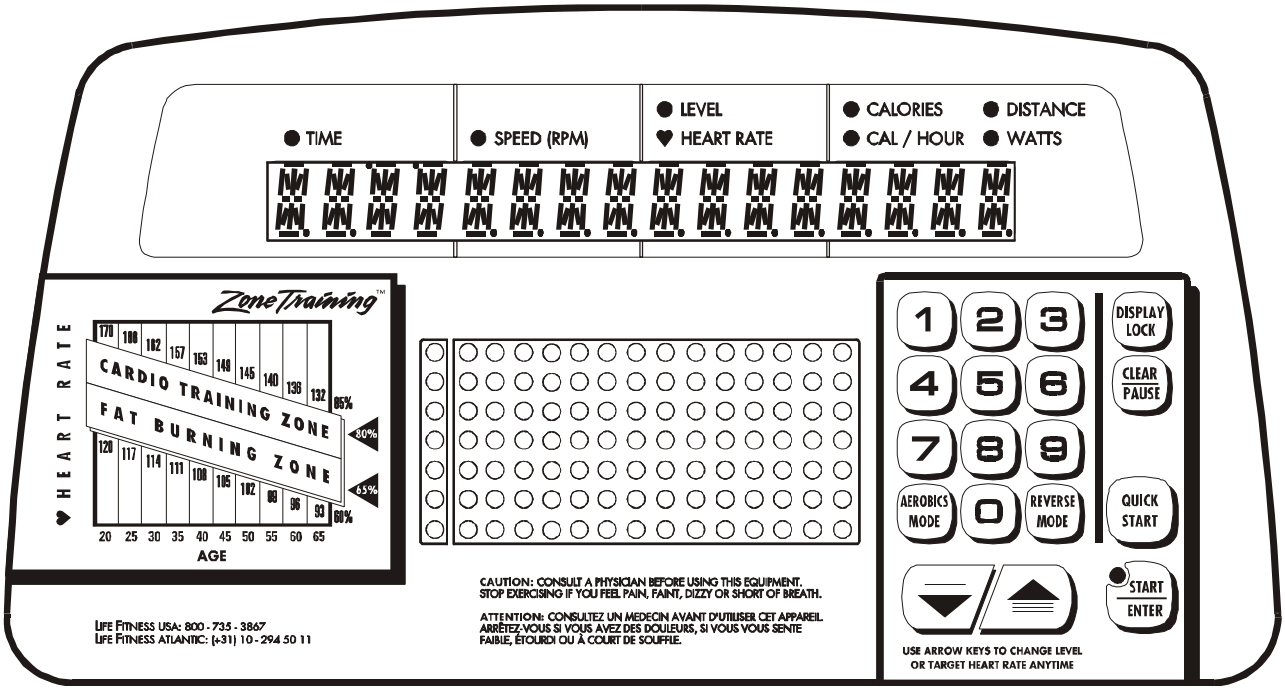
TELEMETRY: Press the UP/DOWN ARROW to toggle telemetry ON and OFF.

ENGLISH or METRIC SYSTEMS: Use the DOWN ARROW to select METRIC and the UP ARROW to select ENGLISH. The factory default is English.

PROGRAM HOURS: To show cumulative hours for each program, press the UP ARROW key to scroll forward through each program. Use the DOWN ARROW to scroll backwards through each program.

PAUSE TIMES: The pause time feature can be set between 1 and 99 minutes. The default is set at one minute. Use the UP ARROW to increase pause times and the DOWN ARROW to decrease pause times in 1 minute increments.

DIAGNOSTIC STATE 1 - ALL LEDs AND KEYPAD TEST


TIME
SPEED (RPM)
LEVEL
HEART RATE
CALORIES
CAL / HOUR
DISTANCE
WATTS
ZoneTraining
HEART RATE
CARDIO TRAINING ZONE
FAT BURNING ZONE
AGE
DISPLAY LOCK
CLEAR PAUSE
AEROBICS MODE
REVERSE MODE
QUICK START
START ENTER
USE ARROW KEYS TO CHANGE LEVEL OR TARGET HEART RATE ANYTIME
CAUTION: CONSULT A PHYSICIAN BEFORE USING THIS EQUIPMENT. STOP EXERCISING IF YOU FEEL PAIN, FAINT, DIZZY OR SHORT OF BREATH.
ATTENTION: CONSULTEZ UN MEDECIN AVANT D'UTILISER CET APPAREIL. ARRÊTEZ-VOUS SI VOUS AVEZ DES DOULEURS, SI VOUS VOUS SENTE FAIBLE, ÉTOURDI OU À COURT DE SOUFFLE.
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LIFE FITNESS ATLANTIC: (+31) 10 - 294 50 11

To access Diagnostic State 1, press and hold down the number 5 key while pressing the CLEAR/PAUSE key twice. All the LEDs should illuminate on the status displays. Pressing each numeric key will display its value across the status screen. For example: press the number 8 key to display 8's across the screen.

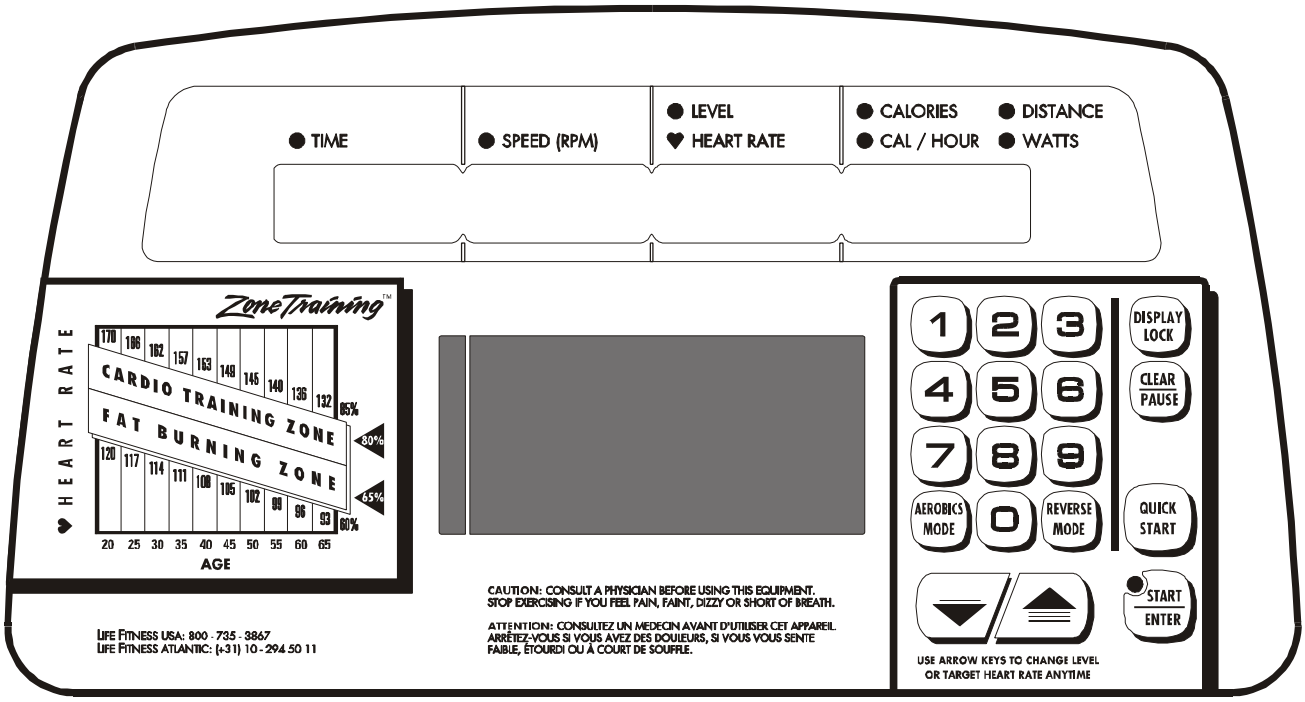
Pressing the DISPLAY LOCK key, the letter 'L' appears across the status display. Pressing the AEROBICS key displays the letter 'A', pressing the REVERSE key displays the letter 'R', pressing the QUICK START key displays the letter 'Q', pressing the UP ARROW displays the letter 'U', and the DOWN ARROW displays the letter 'D'. Press the START/ENTER key to scroll forward to the next Diagnostic State, or press the CLEAR/PAUSE key to exit diagnostics and return back to the user display.

Proceed to Diagnostic State 2 by pressing the START/ENTER key.

NOTICE: Each time a key is pressed it sounds a beep.

KEYS	***DISPLAY***	***KEYS***	***DISPLAY***
0	0	8	8
1	1	9	9
2	2	Display Lock	L
3	3	Aerobics Mode	A
4	4	Reverse Mode	R
5	5	Quick Start	Q
6	6	Up	U
7	7	Down	D

DIAGNOSTIC STATE 2 - INDIVIDUAL LED TEST


TIME
SPEED (RPM)
LEVEL
HEART RATE
CALORIES
CAL / HOUR
DISTANCE
WATTS
ZoneTraining
HEART RATE
CARDIO TRAINING ZONE
FAT BURNING ZONE
AGE
1 2 3
4 5 6
7 8 9
AEROBICS MODE
0
REVERSE MODE
DISPLAY LOCK
CLEAR PAUSE
QUICK START
START ENTER
USE ARROW KEYS TO CHANGE LEVEL OR TARGET HEART RATE ANYTIME
CAUTION: CONSULT A PHYSICIAN BEFORE USING THIS EQUIPMENT. STOP EXERCISING IF YOU FEEL PAIN, FAINT, DIZZY OR SHORT OF BREATH.
ATTENTION: CONSULTEZ UN MEDECIN AVANT D'UTILISER CET APPAREIL. ARRÊTEZ-VOUS SI VOUS AVEZ DES DOULEURS, SI VOUS VOUS SENTE FAIBLE, ÉTOURDI OU À COURT DE SOUFFLE.
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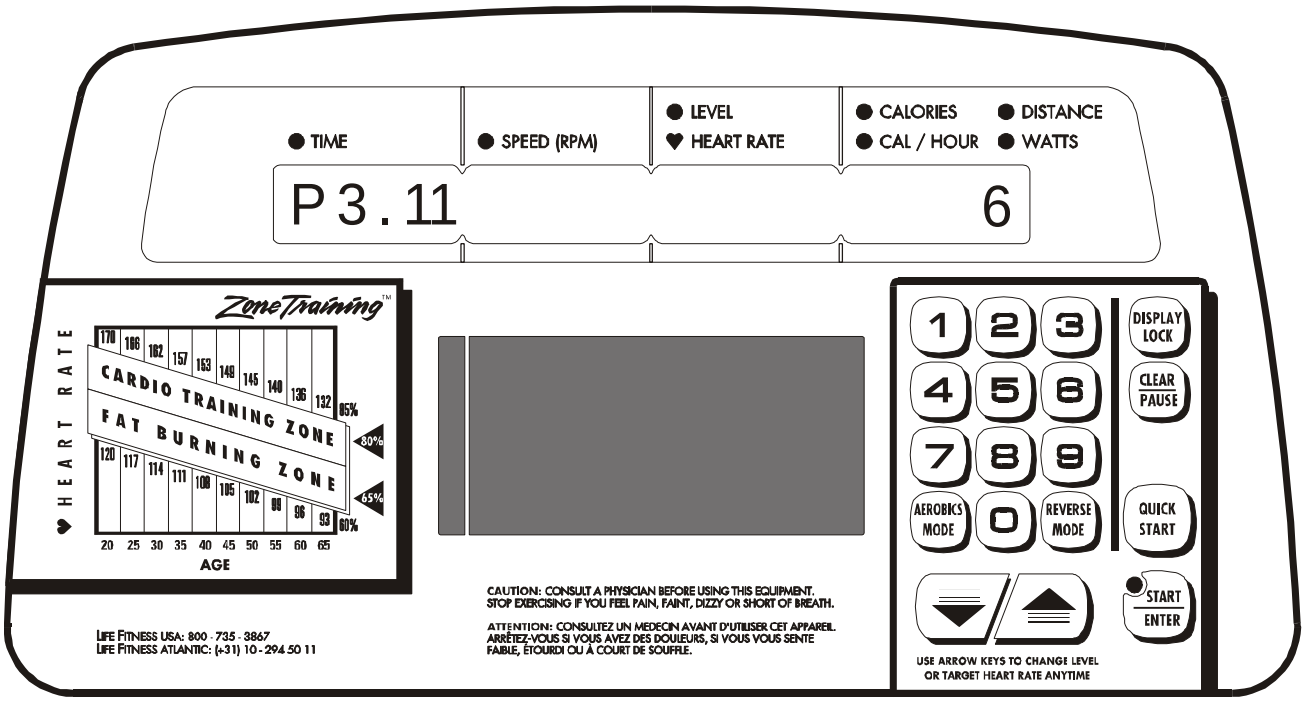
This test will show the LEDs for each display segment (Time, Speed RPM, Level, Heart Rate, Calories, Distance, CAL/Watts, and Watts) for proper illumination.

Press the START/ENTER key to scroll forward to the next Diagnostic State or press the CLEAR/PAUSE key to scroll backward to Diagnostic State 1.

To exit diagnostics, press the CLEAR/PAUSE key when in Diagnostic State 1 to get back to the user display.

Proceed to Diagnostic State 3 by pressing the START/ENTER key.

DIAGNOSTIC STATE 3 - PROGRAM VERSION NUMBER


TIME
SPEED (RPM)
LEVEL
HEART RATE
CALORIES
CAL / HOUR
DISTANCE
WATTS
P 3 . 11
6
ZoneTraining
HEART RATE
CARDIO TRAINING ZONE
FAT BURNING ZONE
AGE
DISPLAY LOCK
CLEAR PAUSE
AEROBICS MODE
REVERSE MODE
QUICK START
START ENTER
USE ARROW KEYS TO CHANGE LEVEL OR TARGET HEART RATE ANYTIME
CAUTION: CONSULT A PHYSICIAN BEFORE USING THIS EQUIPMENT. STOP EXERCISING IF YOU FEEL PAIN, FAINT, DIZZY OR SHORT OF BREATH.
ATTENTION: CONSULTEZ UN MEDECIN AVANT D'UTILISER CET APPAREIL. ARRÊTEZ-VOUS SI VOUS AVEZ DES DOULEURS, SI VOUS VOUS SENTE FAIBLE, ÉTOURDI OU À COURT DE SOUFFLE.
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The current PROGRAM VERSION NUMBER (ex: P285) will be displayed in the TIME window. While striding, the RPM will be displayed in the RPM window, and while holding the handlebar sensors or wearing an optional telemetry heart rate chest strap, the HEART RATE will be displayed in the LEVEL window.

The FIELD DUTY CYCLE LOAD TEST/ALTERNATOR is displayed in the CAL/HOUR window. Field duty cycle settings are set between 6 to 100. The greater the number, the greater the resistance. To adjust in increments of '1' press the number 1 key to decrease resistance and the number 3 key to increase resistance. To adjust in increments of 10, press the number 4 key to decrease resistance and the number 6 key to increase resistance.

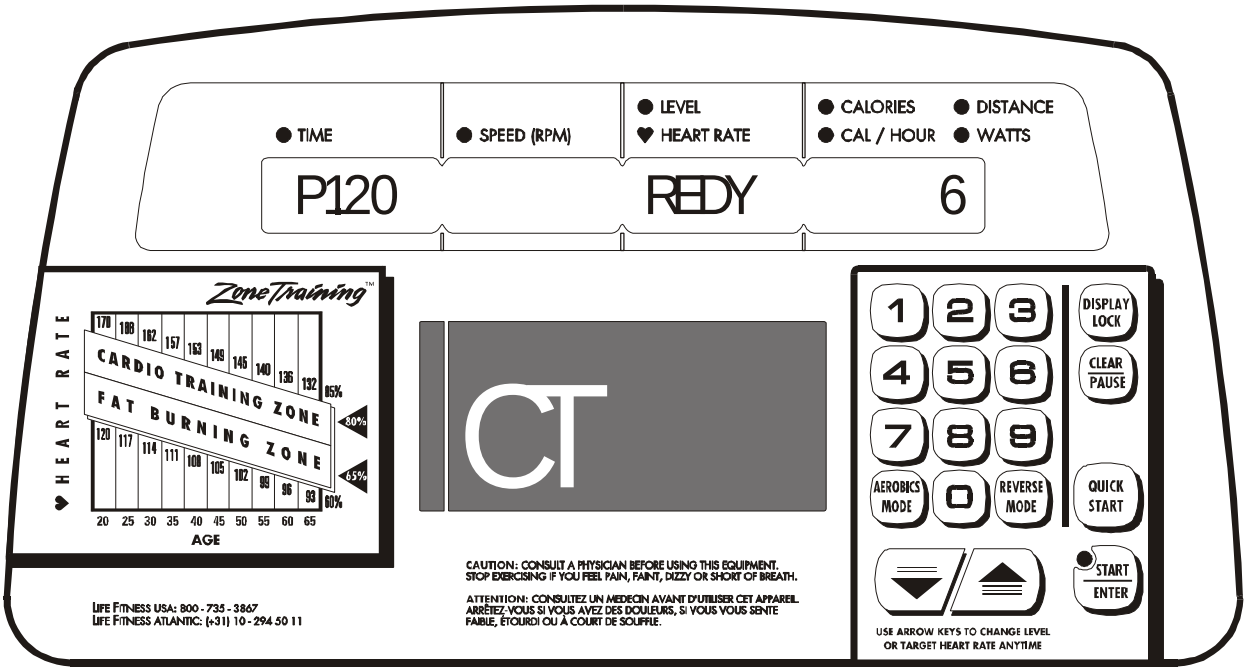
To test the alternator, verify that when increasing the FDC, the resistance increases.

NOTE: AFTER TESTING, THE FDC MUST BE SET BACK TO THE FACTORY SETTING OF 6.

Press the START/ENTER key to scroll forward to the next Diagnostic State or press the CLEAR/PAUSE key to scroll backward to a previous program.

To exit diagnostics, press the CLEAR/PAUSE key through the previous Diagnostic States to get back to the user display.

Proceed to Diagnostic State 4 by pressing the START/ENTER key.


TIME
SPEED (RPM)
LEVEL
HEART RATE
CALORIES
CAL / HOUR
DISTANCE
WATTS
P120
READY
6
ZoneTraining
HEART RATE
CARDIO TRAINING ZONE
FAT BURNING ZONE
AGE
CT
DISPLAY LOCK
CLEAR PAUSE
AEROBICS MODE
REVERSE MODE
QUICK START
START ENTER
USE ARROW KEYS TO CHANGE LEVEL OR TARGET HEART RATE ANYTIME
CAUTION: CONSULT A PHYSICIAN BEFORE USING THIS EQUIPMENT. STOP EXERCISING IF YOU FEEL PAIN, FAINT, DIZZY OR SHORT OF BREATH.
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The PROGRAM VERSION NUMBER (ex. P1.01) will be displayed in the ELAPSED TIME window.

The present RPM will be displayed in the RPM window.

The NETWORK STATUS will be displayed in the LEVEL/CALORIES window.

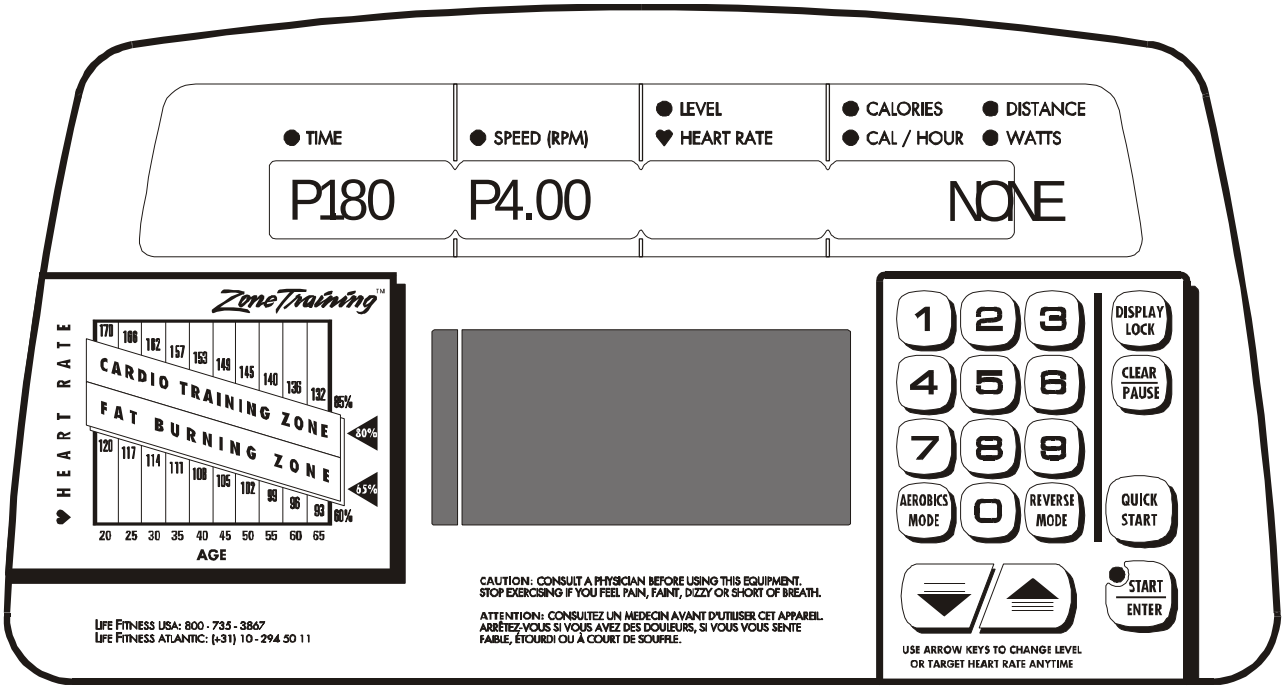
The present FIELD DUTY CYCLE applied to the alternator will be displayed in the CALORIES/HOUR window. This value can be adjusted using the 'DOWN' and 'UP' keys to decrement and increment the FIELD DUTY CYCLE. The FIELD DUTY CYCLE can also be adjusted down or up in increments of 10 using the '4' and '6' keys.

Pressing the '8' key will toggle the display of the LIFEFITNESS PART # of the console software.

Pressing the '9' key will toggle the display of the CSAFE version number.

Pressing the 'CLEAR/PAUSE' key will return to DIAGNOSTICS STATE 2.
Pressing the 'START/ENTER' key will advance to DIAGNOSTICS STATE 4.

DIAGNOSTIC STATE 4 - HEART RATE SOFTWARE (Model 9500HR ONLY)


TIME
SPEED (RPM)
LEVEL
HEART RATE
CALORIES
CAL / HOUR
DISTANCE
WATTS
P180
P4.00
NONE
Zone Training
HEART RATE
CARDIO TRAINING ZONE
FAT BURNING ZONE
AGE
DISPLAY LOCK
CLEAR PAUSE
AEROBICS MODE
REVERSE MODE
QUICK START
START ENTER
USE ARROW KEYS TO CHANGE LEVEL OR TARGET HEART RATE ANYTIME
CAUTION: CONSULT A PHYSICIAN BEFORE USING THIS EQUIPMENT. STOP EXERCISING IF YOU FEEL PAIN, FAINT, DIZZY OR SHORT OF BREATH.
ATTENTION: CONSULTEZ UN MEDECIN AVANT D'UTILISER CET APPAREIL. ARRÊTEZ-VOUS SI VOUS AVEZ DES DOULEURS, SI VOUS VOUS SENTE FAIBLE, ÉTOURDI OU À COURT DE SOUFFLE.
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The PROGRAM VERSION NUMBER (P1.80) of the HEART RATE DSP board software is displayed in the ELAPSED TIME window.

The PROGRAM VERSION NUMBER (P4.00) of the HEART RATE DSP board DSP software is displayed in the SPEED window.

The display of both PROGRAM VERSION NUMBERS verifies that the HEART RATE DSP board is functioning properly.

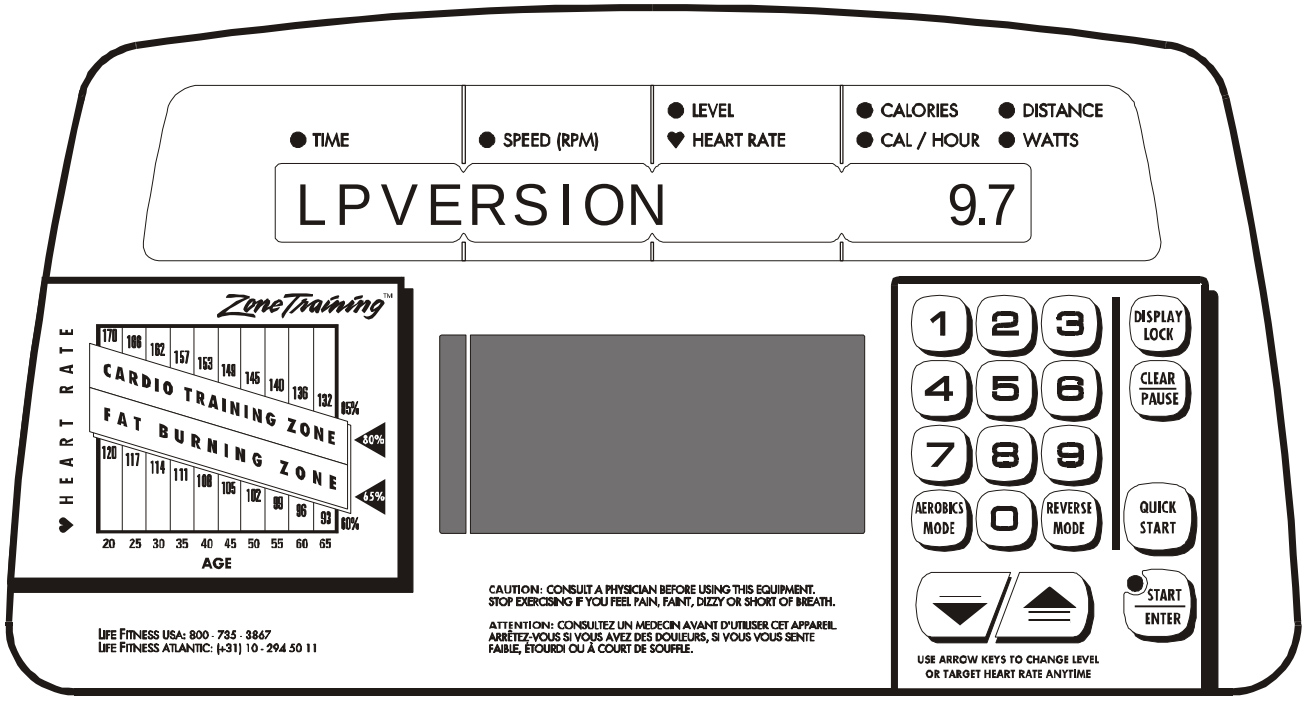
The status of the LIFELINK board and LIFECENTER connection are displayed in the CAL/HOUR window. The following conditions are as follow:

CAL/HOUR	***DESCRIPTION***
NONE	No LIFELINK board detected
NULL	Board detected but not communicating
ON	Linked to LIFECENTER
OFF	Linked to LIFECENTER

To test the sensors, grasp the sensors making sure proper contact is maintained. The heart shaped LED will light up and “HR” will appear when sensors are grasped. The heart rate reading will follow.

Press the START/ENTER key to scroll forward to the next Diagnostic State or press the CLEAR/PAUSE key to scroll backward to previous programs.

To exit diagnostics, press the CLEAR/PAUSE key when in Diagnostic State 1 to get back to the user display. Proceed to Diagnostic State 5 by pressing the START/ENTER key.


TIME
SPEED (RPM)
LEVEL
HEART RATE
CALORIES
CAL / HOUR
DISTANCE
WATTS
LPVERSION
9.7
ZoneTraining
HEART RATE
CARDIO TRAINING ZONE
FAT BURNING ZONE
AGE
DISPLAY LOCK
CLEAR PAUSE
AEROBICS MODE
REVERSE MODE
QUICK START
START ENTER
USE ARROW KEYS TO CHANGE LEVEL OR TARGET HEART RATE ANYTIME
CAUTION: CONSULT A PHYSICIAN BEFORE USING THIS EQUIPMENT. STOP EXERCISING IF YOU FEEL PAIN, FAINT, DIZZY OR SHORT OF BREATH.
ATTENTION: CONSULTEZ UN MEDECIN AVANT D'UTILISER CET APPAREIL. ARRÊTEZ-VOUS SI VOUS AVEZ DES DOULEURS, SI VOUS VOUS SENTE FAIBLE, ÉTOURDI OU À COURT DE SOUFFLE.
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Upon entry to this diagnostic state, the LifePulse software version number is displayed for 2 seconds. After this, the LP Comm Status is displayed for 2 seconds, which will either display 'LP PC COMM ON' or 'LP PC COMM OFF'. Make sure 'LP PC COMM OFF' appears, or CSAFE will not function correctly. The LP Comm Status can be toggled by pressing the '5' key during the 2 seconds when the LP Comm Status message is being displayed, and does not normally need to be adjusted.

After these messages are done displaying, the LifePulse test information comes up.

A counter displaying the ELAPSED TIME since both hands were placed on the LifePulse sensors begins counting in the TIME window. This counter will stop counting as soon as a heart rate is displayed.

The GAIN is displayed in the RPM window.

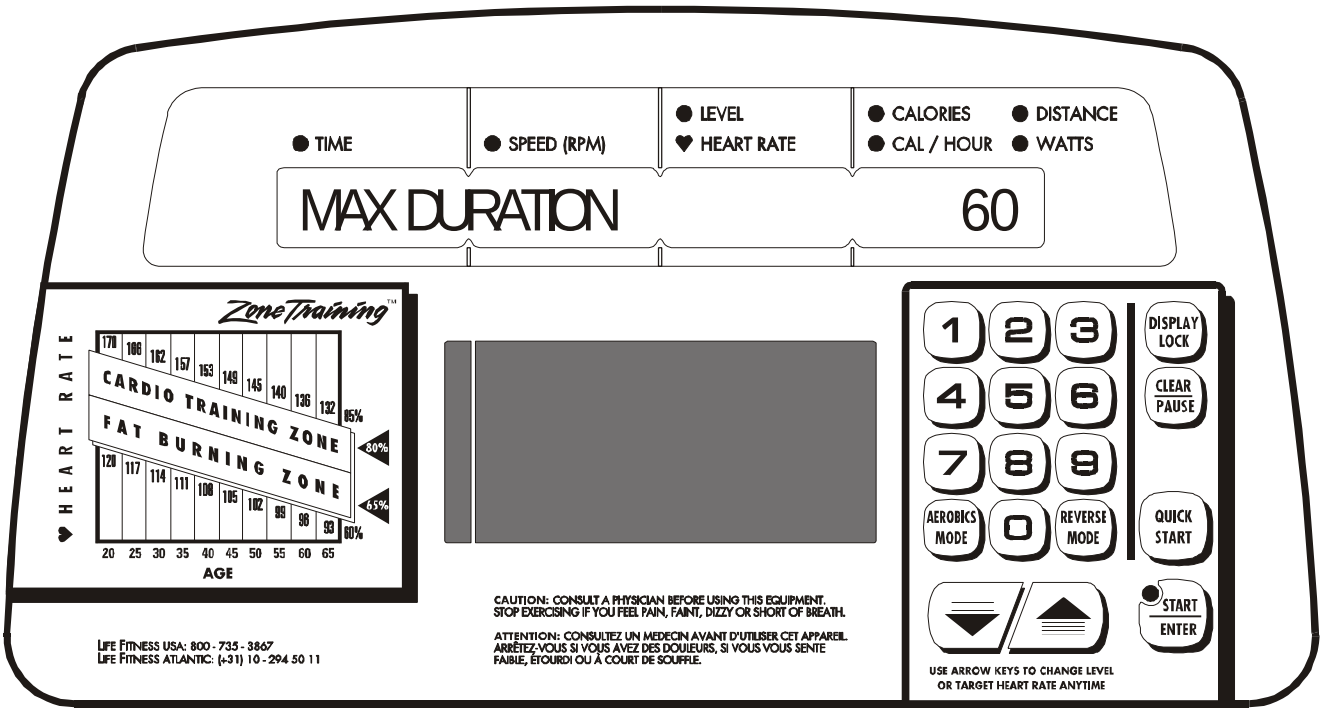
HEART RATE is displayed in the LEVEL/HEART RATE window.

The CONFIDENCE LEVEL between 0–9 is displayed in the CALORIES/HOUR window, with 0 indicating the lowest confidence in the reported HEART RATE and 9 indicating the highest.

The profile window will display an 'L' when the left LifePulse sensor is being held,. An 'R' when the right LifePulse sensor is being held, and 'L' and 'R' when both sensors are being held.

Pressing the 'CLEAR/PAUSE' key will return to DIAGNOSTICS STATE 3.
Pressing the 'START/ENTER' key will advance to DIAGNOSTICS STATE 5.

DIAGNOSTIC STATE 5 - MAXIMUM PROGRAM DURATION


TIME
SPEED (RPM)
LEVEL
HEART RATE
CALORIES
CAL / HOUR
DISTANCE
WATTS
MAX DURATION
60
ZoneTraining
HEART RATE
170 166 162 157 153 149 145 140 136 132 85%
CARDIO TRAINING ZONE
80%
FAT BURNING ZONE
128 117 114 111 108 105 102 99 96 93 80%
65%
20 25 30 35 40 45 50 55 60 65
AGE
LIFE FITNESS USA: 800 - 735 - 3867
LIFE FITNESS ATLANTIC: (+31) 10 - 294 50 11
CAUTION: CONSULT A PHYSICIAN BEFORE USING THIS EQUIPMENT. STOP EXERCISING IF YOU FEEL PAIN, FAINT, DIZZY OR SHORT OF BREATH.
ATTENTION: CONSULTEZ UN MEDECIN AVANT D'UTILISER CET APPAREIL. ARRÊTEZ-VOUS SI VOUS AVEZ DES DOULEURS, SI VOUS VOUS SENTE FAIBLE, ÉTOURDI OU À COURT DE SOUFFLE.
1 2 3
4 5 6
7 8 9
AEROBICS MODE
0
REVERSE MODE
DISPLAY LOCK
CLEAR PAUSE
QUICK START
START ENTER
USE ARROW KEYS TO CHANGE LEVEL OR TARGET HEART RATE ANYTIME

PROGRAM DURATION is used to set a length of time. Time is adjustable between 10 to 99 minutes. Press the DOWN ARROW to decrease time in increments of 1 minute. Press the UP ARROW to increase the time in increments of 1 minute. Holding down the arrow keys allows the operator to scroll quickly through the time settings.

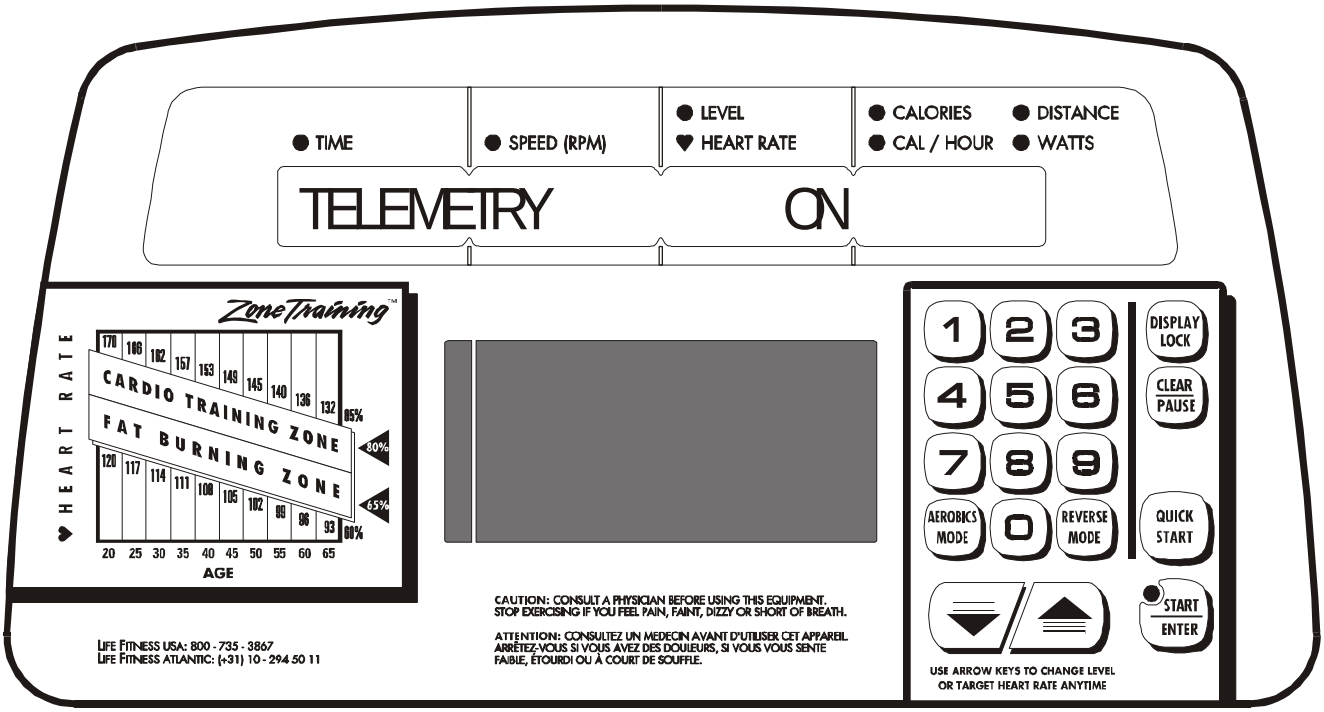
The default value is set to 60 minutes. When selected, the LED for the START/ENTER key will illuminate when this value is selected. This time will be stored in EEROM even when the unit is not in use.

Press the START/ENTER key to scroll forward to the next Diagnostic State or press the CLEAR/PAUSE key to scroll backward to previous programs.

To exit diagnostics, press the CLEAR/PAUSE key when in Diagnostic State 1 to get back to the user display.

Proceed to Diagnostic State 6 by pressing the START/ENTER key.

DIAGNOSTIC STATE 6 - TELEMETRY ENABLE/DISABLE



TELEMETRY can be turned ON or OFF. The telemetry default is set to ON. When in the default mode the START/ENTER key LED will illuminate. This setting is stored in EEROM even when the unit is not in use. The heart-shaped LEDs illuminate in the program profile window.

Toggle between ON and OFF by pressing the number 5 key or the arrows keys (DOWN ARROW for OFF and UP ARROW for ON).

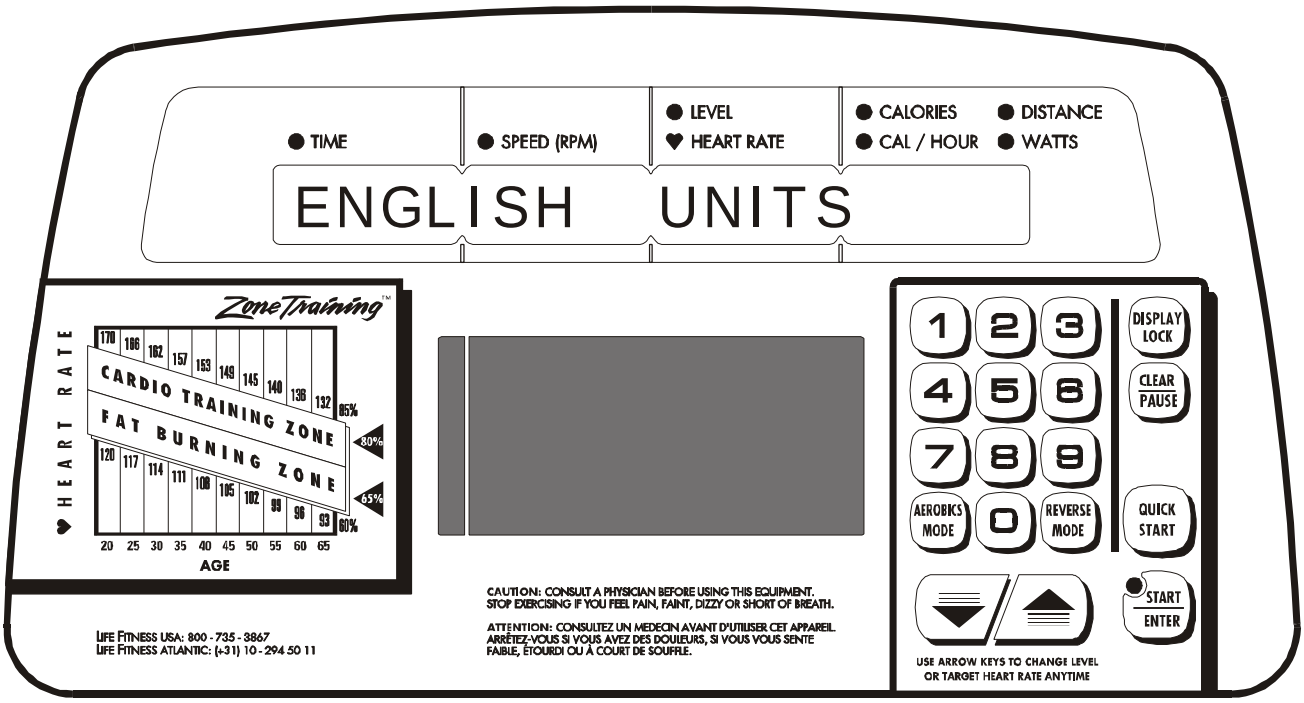
Press the START/ENTER key to scroll forward to the next Diagnostic State or press the CLEAR/PAUSE key to scroll backward to previous programs.

To test for proper operation, place a pulse simulator 2 - 3 feet from the RECEIVER located in the TRAY ASSEMBLY. The Heartrate will display in the Heartrate section of the display.

To exit diagnostics, press the CLEAR/PAUSE key when in Diagnostic State 1 to get back to the user display.

Proceed to Diagnostic State 7 by pressing the START/ENTER key.

DIAGNOSTIC STATE 7 - ENGLISH / METRIC UNITS


TIME
SPEED (RPM)
LEVEL
HEART RATE
CALORIES
CAL / HOUR
DISTANCE
WATTS
ENGLISH UNITS
ZoneTraining
HEART RATE
CARDIO TRAINING ZONE
FAT BURNING ZONE
AGE
DISPLAY LOCK
CLEAR PAUSE
AEROBICS MODE
REVERSE MODE
QUICK START
START ENTER
USE ARROW KEYS TO CHANGE LEVEL OR TARGET HEART RATE ANYTIME
CAUTION: CONSULT A PHYSICIAN BEFORE USING THIS EQUIPMENT. STOP EXERCISING IF YOU FEEL PAIN, FAINT, DIZZY OR SHORT OF BREATH.
ATTENTION: CONSULTEZ UN MEDECIN AVANT D'UTILISER CET APPAREIL. ARRÊTEZ-VOUS SI VOUS AVEZ DES DOULEURS, SI VOUS VOUS SENTE FAIBLE, ÉTOURDI OU À COURT DE SOUFFLE.
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To select ENGLISH or METRIC units, press the number 5 key or the arrows keys (DOWN ARROW for Metric and UP ARROW for English).

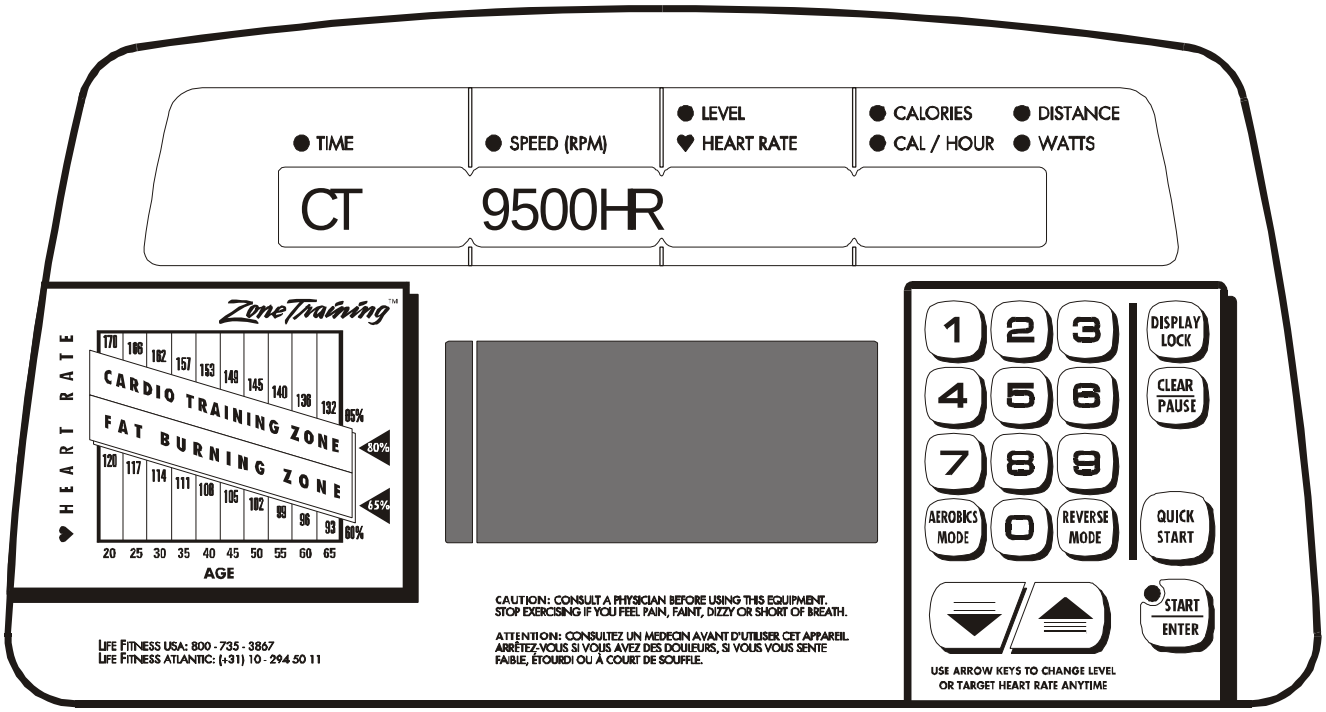
When the ENGLISH default is selected the START/ENTER key LED illuminates. This setting is stored in EEPROM when the unit is not in use.

Press the START/ENTER key to scroll forward to the next Diagnostic State or press the CLEAR/PAUSE key to scroll backward to a previous program.

To exit diagnostics, press the CLEAR/PAUSE key when in Diagnostic State 1 to get back to the user display.

Proceed to Diagnostic State 8 by pressing the START/ENTER key.

DIAGNOSTIC STATE 8 - MODEL SELECTION


TIME
SPEED (RPM)
LEVEL
HEART RATE
CALORIES
CAL / HOUR
DISTANCE
WATTS
CT 9500HR
ZoneTraining
HEART RATE
CARDIO TRAINING ZONE
FAT BURNING ZONE
AGE
DISPLAY LOCK
CLEAR PAUSE
AEROBICS MODE
REVERSE MODE
QUICK START
START ENTER
USE ARROW KEYS TO CHANGE LEVEL OR TARGET HEART RATE ANYTIME
CAUTION: CONSULT A PHYSICIAN BEFORE USING THIS EQUIPMENT. STOP EXERCISING IF YOU FEEL PAIN, FAINT, DIZZY OR SHORT OF BREATH.
ATTENTION: CONSULTEZ UN MEDECIN AVANT D'UTILISER CET APPAREIL. ARRÊTEZ-VOUS SI VOUS AVEZ DES DOULEURS, SI VOUS VOUS SENTE FAIBLE, ÉTOURDI OU À COURT DE SOUFFLE.
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For model selection, press the number 5 key or the arrow keys.

The START/ENTER key LED illuminates when the default model is selected. This setting is stored in the EEPROM when the unit is not in use.

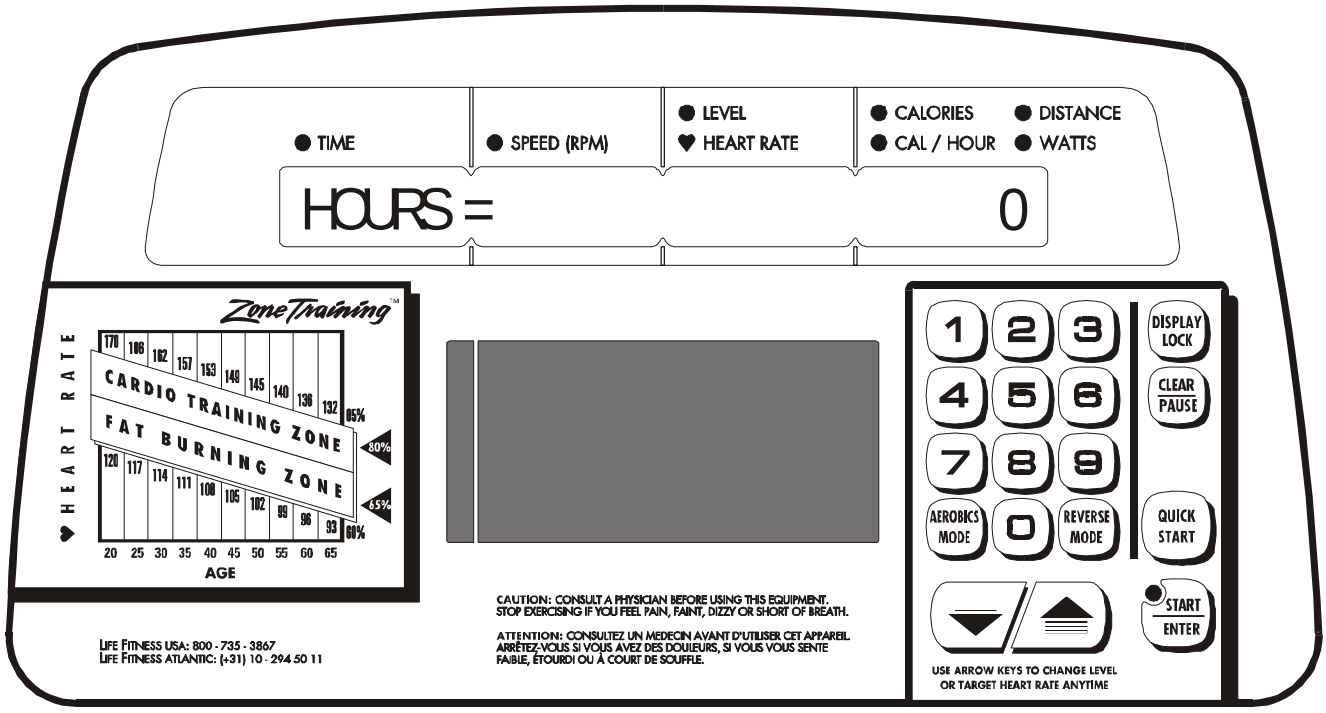
The display will read 9500L for Lower Body or 9500HR for Total Body units.

Press the START/ENTER key to scroll forward to the next Diagnostic State or press the CLEAR/PAUSE key to scroll backward to previous program.

To exit diagnostics, press the CLEAR/PAUSE key when in Diagnostic State 1 to get back to the user display.

Proceed to Diagnostic State 9 by pressing the START/ENTER key.

DIAGNOSTIC STATE 9 - TOTAL HOURS / STATISTICS


TIME
SPEED (RPM)
LEVEL
HEART RATE
CALORIES
CAL / HOUR
DISTANCE
WATTS
HOURS =
0
ZoneTraining
HEART RATE
CARDIO TRAINING ZONE
FAT BURNING ZONE
AGE
DISPLAY LOCK
CLEAR PAUSE
AEROBICS MODE
REVERSE MODE
QUICK START
START ENTER
USE ARROW KEYS TO CHANGE LEVEL OR TARGET HEART RATE ANYTIME
CAUTION: CONSULT A PHYSICIAN BEFORE USING THIS EQUIPMENT. STOP EXERCISING IF YOU FEEL PAIN, FAINT, DIZZY OR SHORT OF BREATH.
ATTENTION: CONSULTEZ UN MEDECIN AVANT D'UTILISER CET APPAREIL. ARRÊTEZ-VOUS SI VOUS AVEZ DES DOULEURS, SI VOUS VOUS SENTE FAIBLE, ÉTOURDI OU À COURT DE SOUFFLE.
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This program shows the TOTAL HOURS for all programs (Hill, Random, Manual, Fat, Cardio...), as well as total individual hours for each program.

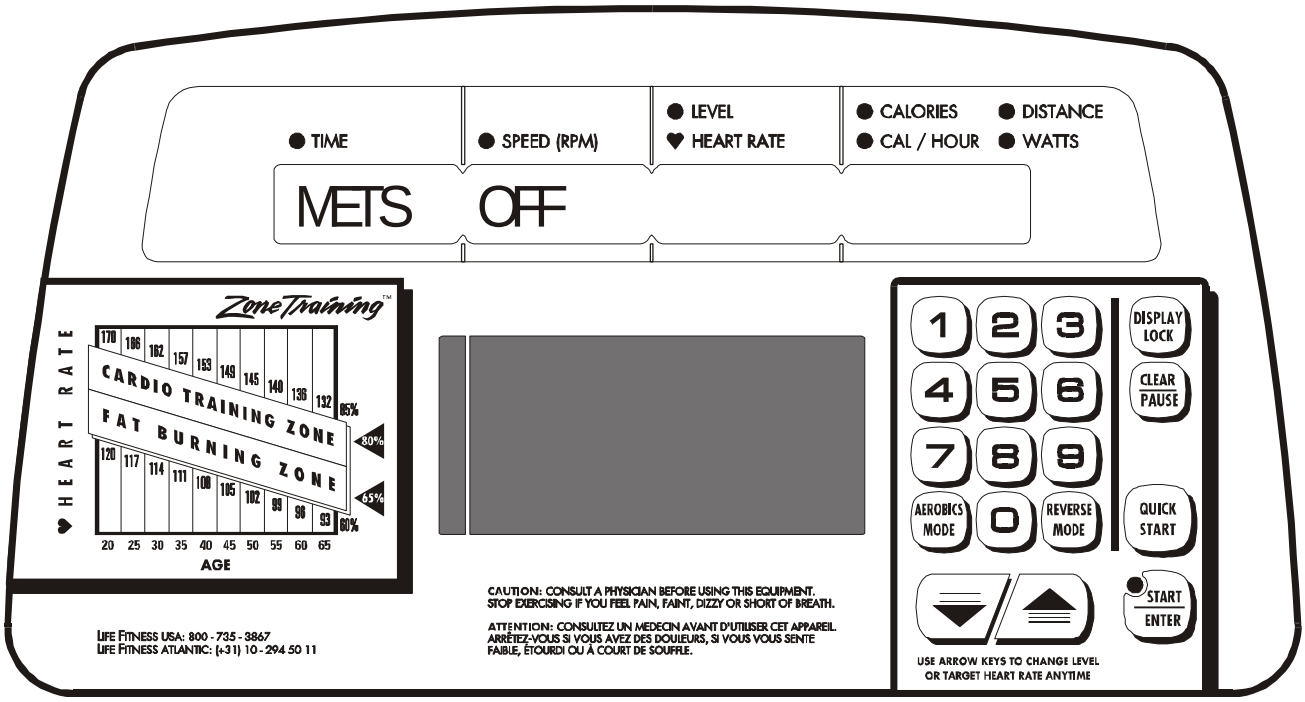
Press the UP ARROW to scroll forward through each program's total hours. Press the DOWN ARROW to scroll back to total hours.

Press the START/ENTER key to scroll forward to the next Diagnostic State or press the CLEAR/PAUSE key to scroll backward to a previous program.

To exit diagnostics, press the CLEAR/PAUSE key through Diagnostic State 1 to get back to the user display.

Proceed to Diagnostic State 10 by pressing the START/ENTER key.

DIAGNOSTIC STATE 10 - METS ENABLE / DISABLE


TIME
SPEED (RPM)
LEVEL
HEART RATE
CALORIES
CAL / HOUR
DISTANCE
WATTS
METS OFF
ZoneTraining
HEART RATE
CARDIO TRAINING ZONE
FAT BURNING ZONE
AGE
DISPLAY LOCK
CLEAR PAUSE
AEROBICS MODE
REVERSE MODE
QUICK START
START ENTER
USE ARROW KEYS TO CHANGE LEVEL OR TARGET HEART RATE ANYTIME
CAUTION: CONSULT A PHYSICIAN BEFORE USING THIS EQUIPMENT. STOP EXERCISING IF YOU FEEL PAIN, FAINT, DIZZY OR SHORT OF BREATH.
ATTENTION: CONSULTEZ UN MEDECIN AVANT D'UTILISER CET APPAREIL. ARRÊTEZ-VOUS SI VOUS AVEZ DES DOULEURS, SI VOUS VOUS SENTE FAIBLE, ÉTOURDI OU À COURT DE SOUFFLE.
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The METS state shows the work load (optional). Within this state, the METS OPTION can be turned ON or OFF.

Press the number 5 key or the arrow keys to METS ON or METS OFF. The DOWN ARROW turns OFF METS and the UP ARROW turns ON METS.

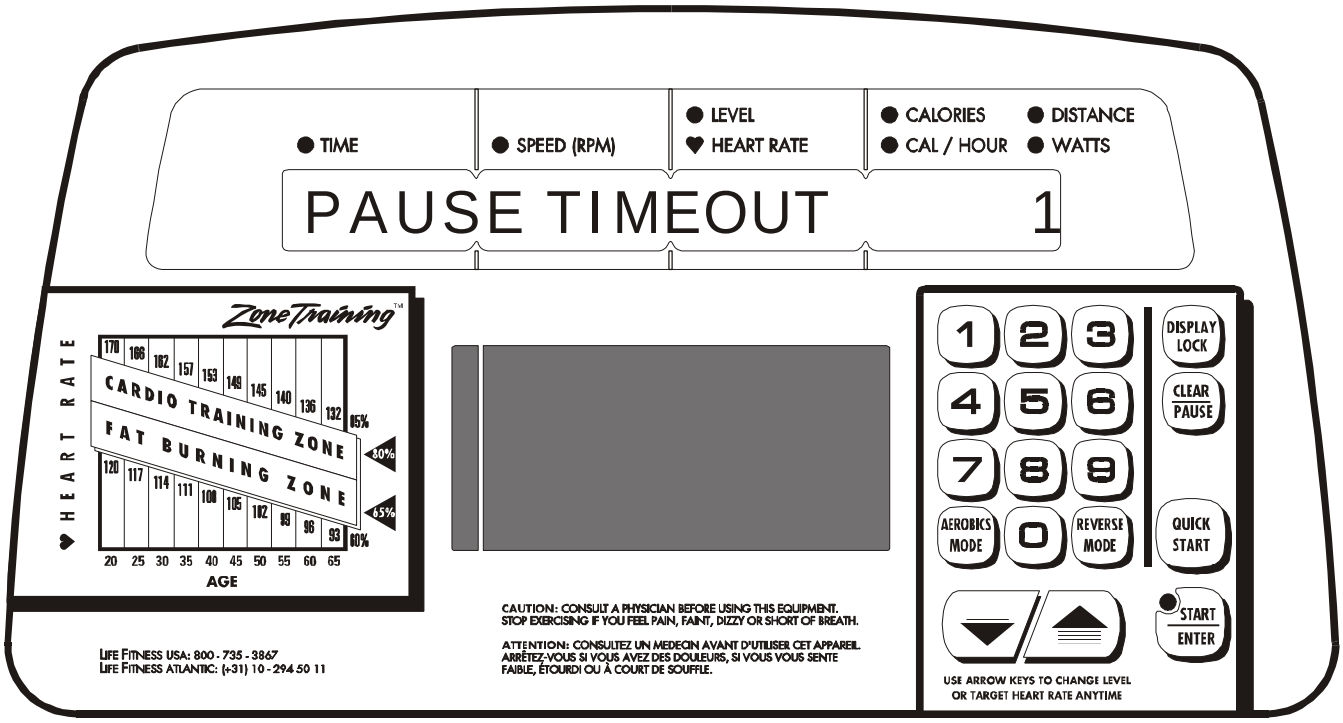
The START/ENTER key LED illuminates when the METS OFF default is selected. This value is stored in EEROM when the unit is not in use.

Press the START/ENTER key to scroll forward to the next Diagnostic State or press the CLEAR/PAUSE key to scroll backward to a previous program.

To exit diagnostics, press the CLEAR/PAUSE key when in Diagnostic State 1 to get back to the user display.

Proceed to Diagnostic State 11 by pressing the START/ENTER key.

DIAGNOSTIC STATE 11 - PAUSE TIMEOUT DURATION


TIME
SPEED (RPM)
LEVEL
HEART RATE
CALORIES
CAL / HOUR
DISTANCE
WATTS
PAUSE TIMEOUT 1
ZoneTraining
HEART RATE
CARDIO TRAINING ZONE
FAT BURNING ZONE
AGE
DISPLAY LOCK
CLEAR PAUSE
AEROBICS MODE
REVERSE MODE
QUICK START
START ENTER
USE ARROW KEYS TO CHANGE LEVEL OR TARGET HEART RATE ANYTIME
CAUTION: CONSULT A PHYSICIAN BEFORE USING THIS EQUIPMENT. STOP EXERCISING IF YOU FEEL PAIN, FAINT, DIZZY OR SHORT OF BREATH.
ATTENTION: CONSULTEZ UN MEDECIN AVANT D'UTILISER CET APPAREIL. ARRÊTEZ-VOUS SI VOUS AVEZ DES DOULEURS, SI VOUS VOUS SENTE FAIBLE, ÉTOURDI OU À COURT DE SOUFFLE.
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The PAUSE TIME-OUT can be adjusted between 1 through 99 minutes.

The number 1 key or DOWN ARROW are used to decrease the setting in increments of one minute.

The number 3 key or UP ARROW are used to increase the setting in increments of one minute.

The START/ENTER key LED illuminates when the default, 1 minute, is selected. This value is saved in the EEROM when the unit is not in use.

Press the START/ENTER key to scroll forward to the next Diagnostic State or press the CLEAR/PAUSE key to scroll backward to a previous program.

To exit diagnostics, press the CLEAR/PAUSE key when in Diagnostic State 1 to get back to the user display.

Proceed to Diagnostic State 12 by pressing the START/ENTER key.

DIAGNOSTIC STATE 12 - PHOTO SHOOT

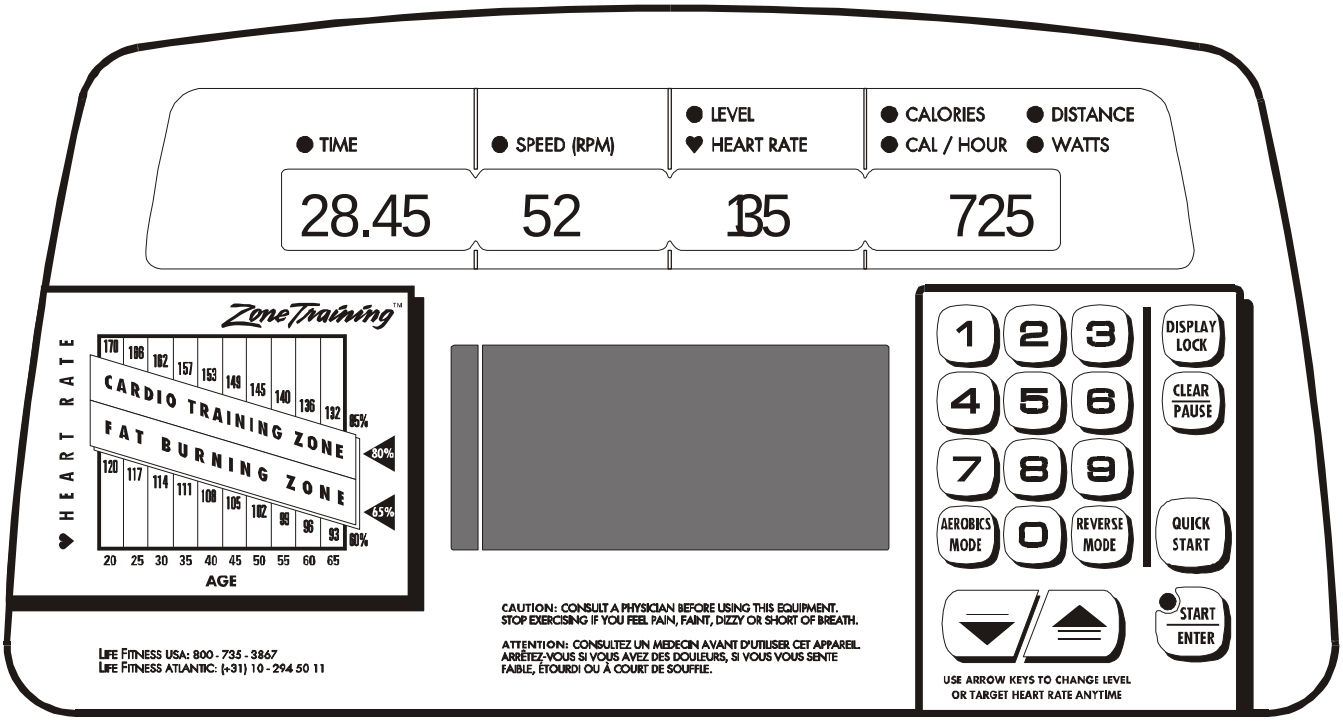
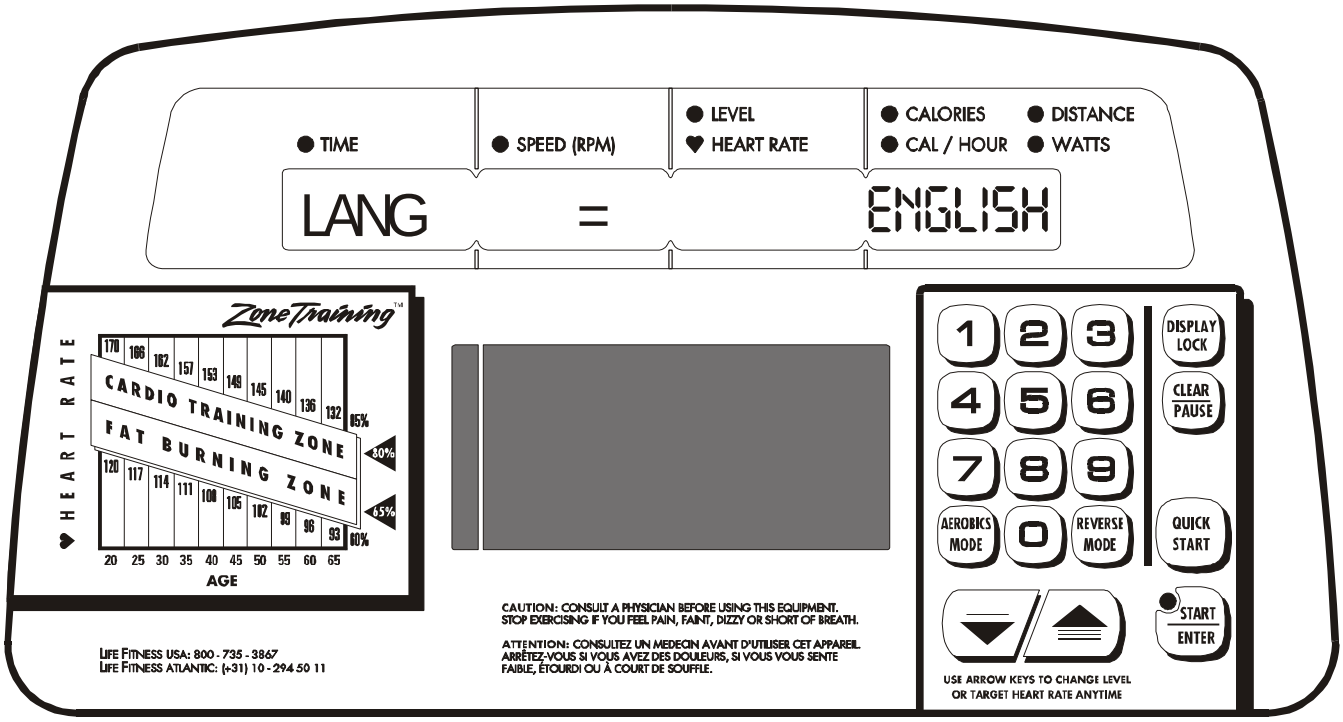

TIME
SPEED (RPM)
LEVEL
HEART RATE
CALORIES
CAL / HOUR
DISTANCE
WATTS
28.45
52
135
725
Zone Training
HEART RATE
CARDIO TRAINING ZONE
FAT BURNING ZONE
AGE
LIFE FITNESS USA: 800 - 735 - 3867
LIFE FITNESS ATLANTIC: (+31) 10 - 294 50 11
CAUTION: CONSULT A PHYSICIAN BEFORE USING THIS EQUIPMENT. STOP EXERCISING IF YOU FEEL PAIN, FAINT, DIZZY OR SHORT OF BREATH.
ATTENTION: CONSULTEZ UN MEDECIN AVANT D'UTILISER CET APPAREIL. ARRÊTEZ-VOUS SI VOUS AVEZ DES DOULEURS, SI VOUS VOUS SENTE FAIBLE, ÉTOURDI OU À COURT DE SOUFFLE.
DISPLAY LOCK
CLEAR PAUSE
AEROBICS MODE
REVERSE MODE
QUICK START
START ENTER
USE ARROW KEYS TO CHANGE LEVEL OR TARGET HEART RATE ANYTIME

Photo Shoot is used primarily for photography purposes in order to develop sales and marketing literature, training, and for customer support. The sample data in each field is non-functional and used for display purposes only.

This completes diagnostics.

To exit diagnostics, press the CLEAR/PAUSE key through Diagnostic State 1 to get back to the user display.

DIAGNOSTICS STATE 12 – LANGUAGE SELECTION w/ Integrated PCB


TIME
SPEED (RPM)
LEVEL
HEART RATE
CALORIES
CAL / HOUR
DISTANCE
WATTS
LANG = ENGLISH
ZoneTraining
HEART RATE
CARDIO TRAINING ZONE
FAT BURNING ZONE
AGE
DISPLAY LOCK
CLEAR PAUSE
AEROBICS MODE
REVERSE MODE
QUICK START
START ENTER
USE ARROW KEYS TO CHANGE LEVEL OR TARGET HEART RATE ANYTIME
CAUTION: CONSULT A PHYSICIAN BEFORE USING THIS EQUIPMENT. STOP EXERCISING IF YOU FEEL PAIN, FAINT, DIZZY OR SHORT OF BREATH.
ATTENTION: CONSULTEZ UN MEDECIN AVANT D'UTILISER CET APPAREIL. ARRÊTEZ-VOUS SI VOUS AVEZ DES DOULEURS, SI VOUS VOUS SENTE FAIBLE, ÉTOURDI OU À COURT DE SOUFFLE.
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Within this state, the LANGUAGE can be changed to any one of 7 languages, including English, German, French, Italian, Dutch, Spanish or Portuguese.

The 'UP ARROW' will display the next language in the list.

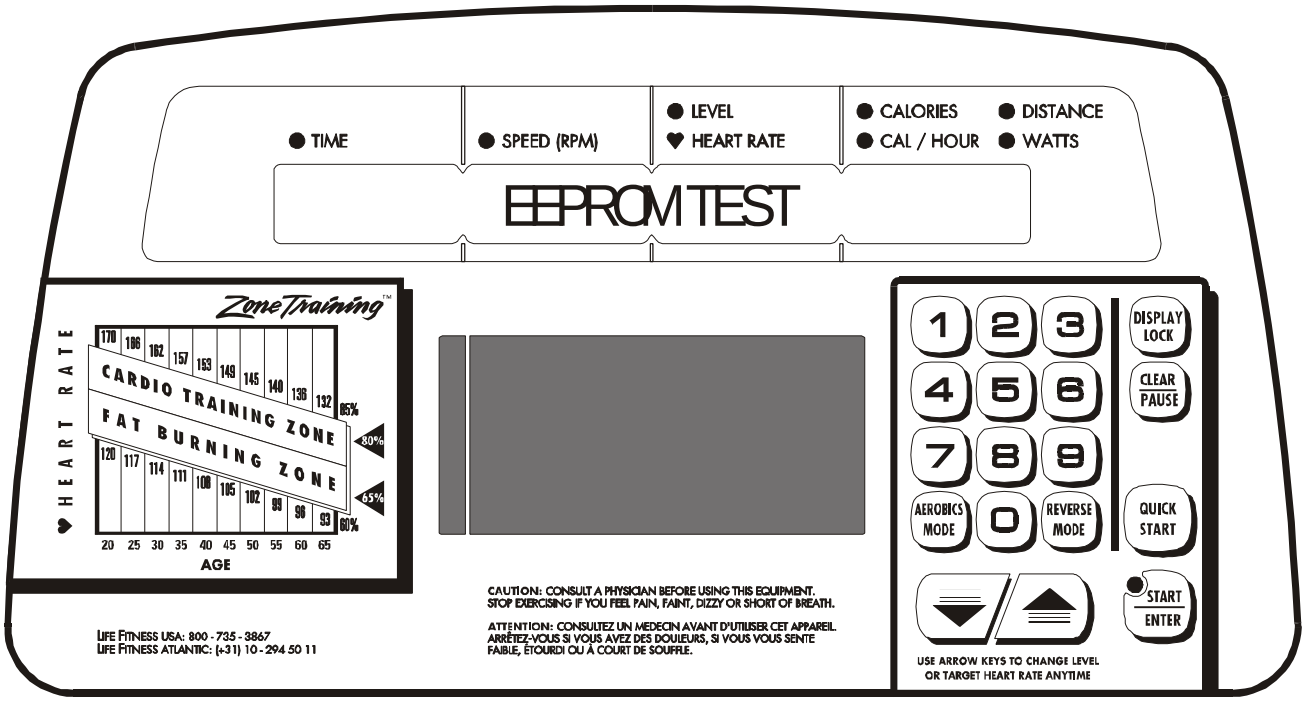
The 'DOWN ARROW' will display the previous language in the list.

The ENTER key led will indicate when the language is set to the default of 'ENGLISH'.

This value is stored in EEROM and is kept when the unit is not in use.

Pressing the 'CLEAR/PAUSE' key will return to DIAGNOSTICS STATE 11
Pressing the 'START/ENTER' key will advance to DIAGNOSTICS STATE 13

DIAGNOSTICS STATE 13 – EEPROM TEST w/ Integrated PCB

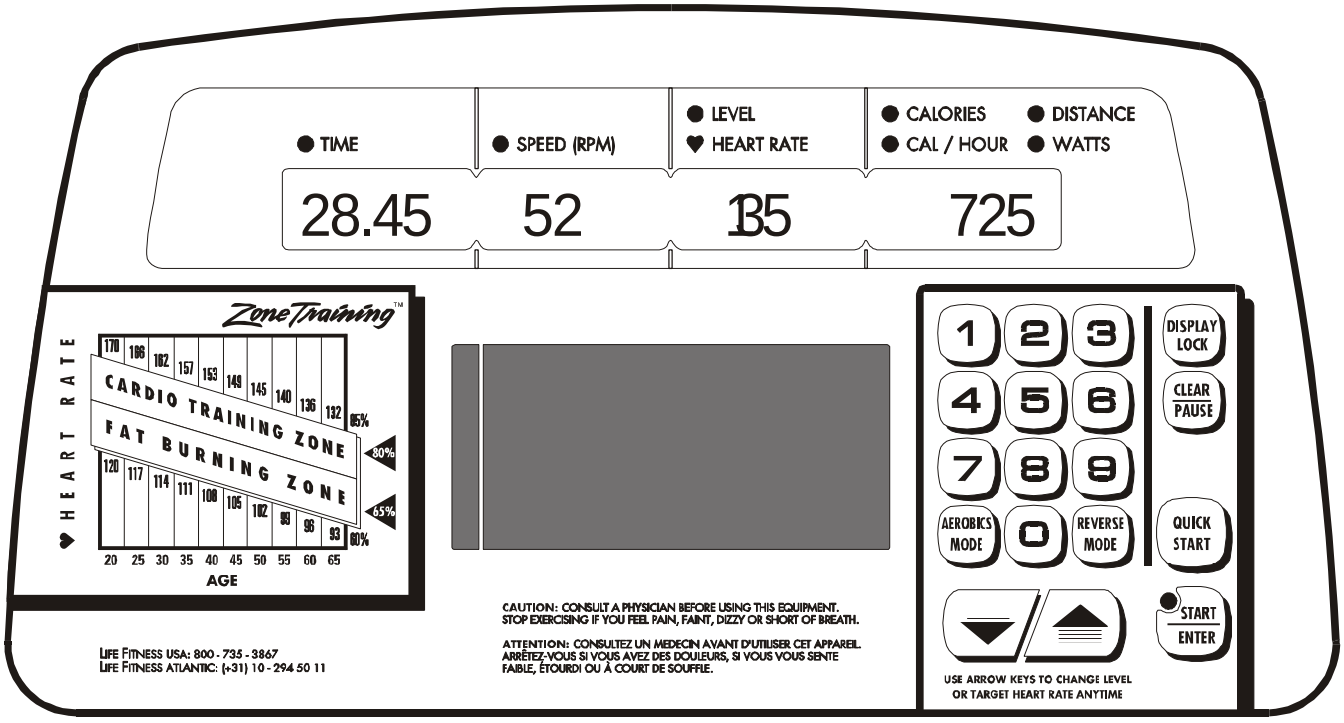

TIME
SPEED (RPM)
LEVEL
HEART RATE
CALORIES
CAL / HOUR
DISTANCE
WATTS
EEPROM TEST
Zone Training
HEART RATE
CARDIO TRAINING ZONE
FAT BURNING ZONE
AGE
LIFE FITNESS USA: 800 - 735 - 3867
LIFE FITNESS ATLANTIC: (+31) 10 - 294 50 11
CAUTION: CONSULT A PHYSICIAN BEFORE USING THIS EQUIPMENT. STOP EXERCISING IF YOU FEEL PAIN, FAINT, DIZZY OR SHORT OF BREATH.
ATTENTION: CONSULTEZ UN MEDECIN AVANT D'UTILISER CET APPAREIL. ARRÊTEZ-VOUS SI VOUS AVEZ DES DOULEURS, SI VOUS VOUS SENTE FAIBLE, ÉTOURDI OU À COURT DE SOUFFLE.
DISPLAY LOCK
CLEAR PAUSE
AEROBICS MODE
REVERSE MODE
QUICK START
START ENTER
USE ARROW KEYS TO CHANGE LEVEL OR TARGET HEART RATE ANYTIME

Within this state, EEPROM can be tested.

Pressing the 'DOWN ARROW' will initiate the EEPROM test. If the test completes successfully, the message 'EEPROM GOOD' will appear. If the test fails, the message 'EEPROM BAD AT XX' will display with the bad EEPROM location.

Pressing the 'CLEAR/PAUSE' key will return to DIAGNOSTICS STATE 12
Pressing the 'START/ENTER' key will advance to DIAGNOSTICS STATE 14

DIAGNOSTIC STATE 14 - PHOTO SHOOT w/ Integrated PCB


TIME
SPEED (RPM)
LEVEL
HEART RATE
CALORIES
CAL / HOUR
DISTANCE
WATTS
28.45
52
135
725
ZoneTraining
HEART RATE
CARDIO TRAINING ZONE
FAT BURNING ZONE
AGE
LIFE FITNESS USA: 800 - 735 - 3867
LIFE FITNESS ATLANTIC: (+31) 10 - 294 50 11
CAUTION: CONSULT A PHYSICIAN BEFORE USING THIS EQUIPMENT. STOP EXERCISING IF YOU FEEL PAIN, FAINT, DIZZY OR SHORT OF BREATH.
ATTENTION: CONSULTEZ UN MEDECIN AVANT D'UTILISER CET APPAREIL. ARRÊTEZ-VOUS SI VOUS AVEZ DES DOULEURS, SI VOUS VOUS SENTE FAIBLE, ÉTOURDI OU À COURT DE SOUFFLE.
DISPLAY LOCK
CLEAR PAUSE
AEROBICS MODE
REVERSE MODE
QUICK START
START ENTER
USE ARROW KEYS TO CHANGE LEVEL OR TARGET HEART RATE ANYTIME

This state is to be used only for PHOTO SHOOT.

None of the data items displayed are real.
Sleep timers are disabled.

Pressing the 'CLEAR/PAUSE' key will return to DIAGNOSTICS STATE 13.

NOTES

SECTION III

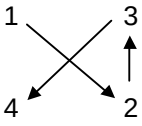
"How To..." SERVICE AND REPAIR GUIDE

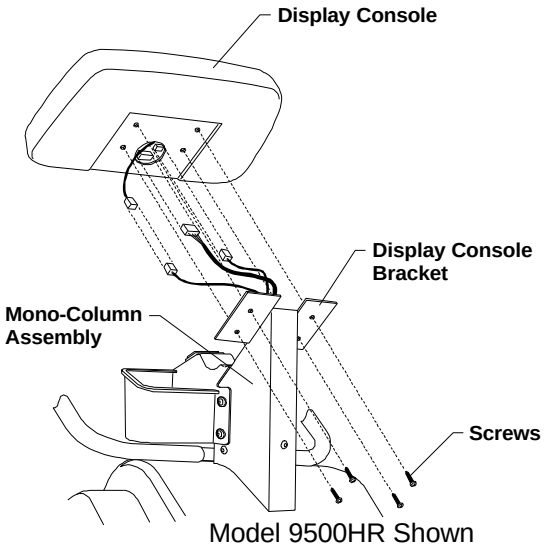
Life Fitness Model 9500 Series Cross-Trainers

How To... Replace the Display Console Assembly

Tools required: Phillips screwdriver

1. Turn the power OFF at the ON/OFF switch and unplug the ac line cord from the electrical outlet.
2. Remove the four SCREWS securing the DISPLAY CONSOLE to the MONO-COLUMN ASSEMBLY.
3. Carefully raise the DISPLAY CONSOLE off the DISPLAY CONSOLE BRACKET and disconnect the three CABLE CONNECTIONS from the back of the DISPLAY CONSOLE. Set the worn DISPLAY CONSOLE aside.
4. Position the new DISPLAY CONSOLE above the DISPLAY CONSOLE BRACKET and reverse steps 1 through 3 to return parts to proper position.
5. Tighten the DISPLAY CONSOLE screws in a criss-cross manner.





Model 9500HR Shown

CAUTION: BE CAREFUL NOT TO DISCONNECT THE TELEMETRY CABLE JACK FROM THE RECEIVER DURING THE REPLACEMENT PROCESS.

Life Fitness Model 9500 Series Cross-Trainers

How To... Replace the Tray Assembly

Tools required: Socket set or Open end wrench, Phillips screwdriver

1. Turn power OFF at the ON/OFF switch and unplug ac line cord from electrical outlet.

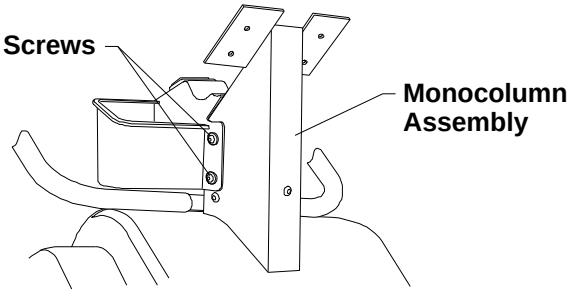
2. Remove the SCREWS (4) securing the DISPLAY CONSOLE to the MONO-COLUMN ASSEMBLY. Disconnect STOP SWITCH/TELEMETRY CABLE from CONSOLE CONNECTOR.

HELPFUL HINT: PLACE DISPLAY CONSOLE BACK ONTO MONO-COLUMN AND ATTACH A COUPLE OF DISPLAY MOUNTING SCREWS TO HOLD DISPLAY.

3. Remove SCREWS (4) securing TRAY ASSEMBLY to MONO-COLUMN.

4. Reverse steps 1 through 4 to return parts to proper position.

CAUTION: WHEN REPLACING TRAY ASSEMBLY THE TELEMETRY CABLE JACK MAY BECOME DISCONNECTED FROM RECEIVER.



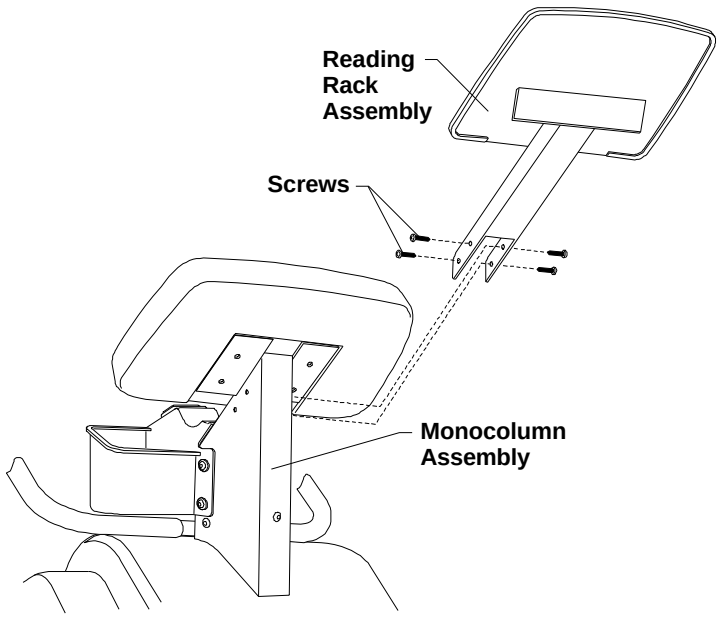
Model 9500HR Shown

Life Fitness Model 9500HR Cross-Trainer

How To... Replace the Reading Rack Assembly

Tools required: Socket set or Open end wrench

1. Turn power OFF at the ON/OFF switch.
2. Remove the SCREWS (4) securing the READING RACK to the MONOCOLUMN.
3. Replace new READING RACK. Discard faulty READING RACK.



Life Fitness Model 9500 Series Cross-Trainers

How To... Replace the Stop Switch Assembly

Tools required: Standard screwdriver, Pliers, Socket set or Open end wrench, Phillips screwdriver

1. Turn power OFF at the ON/OFF switch and unplug ac line cord from electrical outlet.

2. Remove the SCREWS (4) securing the DISPLAY CONSOLE to the MONO-COLUMN ASSEMBLY. Disconnect STOP SWITCH/TELEMETRY CABLE from CONSOLE CONNECTOR.

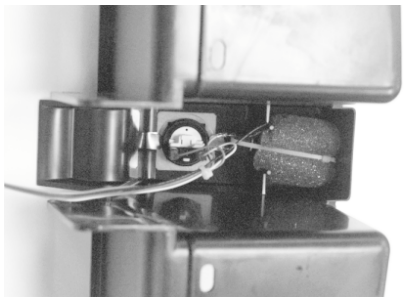
HELPFUL HINT: PLACE DISPLAY CONSOLE BACK ONTO MONO-COLUMN AND ATTACH A COUPLE OF DISPLAY MOUNTING SCREWS TO HOLD DISPLAY.

3. Remove SCREWS (4) securing TRAY ASSEMBLY to MONO-COLUMN.

4. Remove the wiring harness from the worn STOP SWITCH.

5. Using a screwdriver bend the LOCKING CLIP TABS of the LOCKING CLIP open.

6. Back off the NUT and remove the STOP SWITCH BODY from the TRAY ASSEMBLY.



7. Insert the new STOP SWITCH ASSEMBLY through the opening in the front of the TRAY ASSEMBLY taking note to orient the SWITCH BODY so the word “STOP” is readable from the face of the TRAY ASSEMBLY.

8. Slide the LOCKING CLIP from the underneath side of the TRAY over the SWITCH BODY.

9. Bend each of the two LOCKING CLIP TABS of the LOCKING CLIP 90 degrees to secure the NUT into position and prevent it from rotating. It may be necessary to back off the NUT slightly to insure that the tabs come in contact with the flat spot on the NUT. The LOCKING CLIP TABS can sustain being bent several times to insure a tight lock.

10. Install the plastic NUT on to the threaded portion of the SWITCH BODY with the flat side toward the TRAY and tighten 1/8 of a turn past hand tight. (Torque 10-15 in/lbs)

CAUTION: OVERTIGHTENING THE NUT MAY CAUSE DAMAGE TO THE SWITCH BODY.

11. Insert the new SWITCH into the SWITCH BODY taking special note to orient the two parts so the SWITCH PLUNGERS make contact upon assembly. **DO NOT** bend the CONNECTOR TABS on the SWITCH.

NOTE: VERIFY THAT THE PLUNGERS ARE MAKING CONTACT BY PRESSING THE STOP BUTTON AND VISUALLY INSURING THEY TOUCH EACH OTHER. A CLICKING SOUND WILL BE HEARD FROM THE SWITCH IF THE ASSEMBLY HAS BEEN INSTALLED PROPERLY.

12. Install the STOP SWITCH/TELEMETRY CABLE **being extremely careful not to bend or break the connecting tabs of the switch** and reverse Steps 1 through 3 to return all parts to their proper position.

CAUTION: WHEN REPLACING TRAY ASSEMBLY THE TELEMETRY CABLE JACK MAY BECOME DISCONNECTED FROM RECEIVER.

Life Fitness Model 9500 Series Cross-Trainers

How To... Replace the Hood Shroud Assembly

Tools Required: Torx key, or Standard flat screwdriver, Socket Set, Hex Key Set

1. Turn power OFF at the On/Off switch and unplug the AC line cord from electrical outlet.

2. Locate PUSH SNAPS (2) under the TRAY ASSEMBLY. Depress the center tab down.

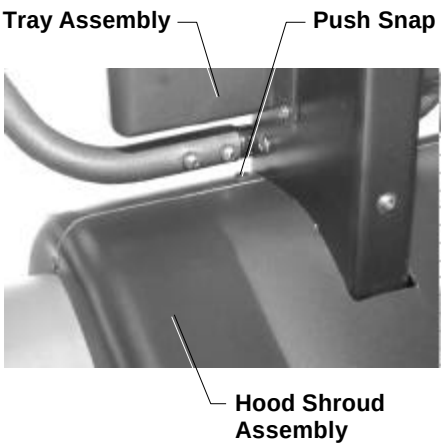
NOTE: USING A HEX KEY TOOL YOU CAN REACH UNDER THE TRAY ASSEMBLY TO DEPRESS THE CENTER PIN.

3. Remove SCREWS (8) securing the HOOD SHROUD ASSEMBLY.

4. Gently press down on the HOOD SHROUD ASSEMBLY, just below the PUSH SNAP and remove the HOOD SHROUD ASSEMBLY.

5. Place the new HOOD SHROUD ASSEMBLY into position.

6. Reverse steps 1 through 4 to return parts to proper location.



NOTE: TO REPLACE PUSH SNAP, POSITION INNER PIN SO THE HEAD OF THE PIN IS OUT AT THE TOP. INSERT INTO BOTH SHROUD ASSEMBLES, AND DEPRESS. FOR PROPER INSTALLATION THE PUSH SNAP WILL BE FLUSH WITH THE HOOD SHROUD ASSEMBLY.

Life Fitness Model 9500HR Cross-Trainer

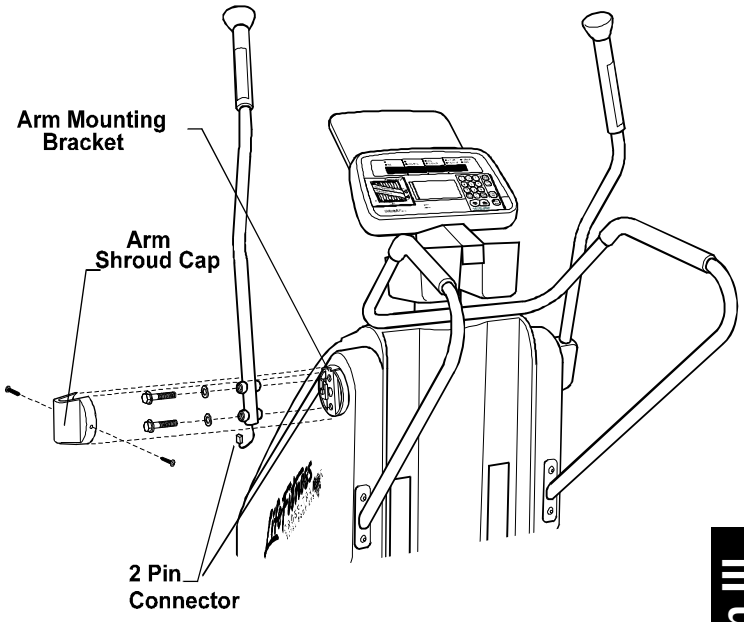
How To... Replace Heart Rate Upper Arm Assembly

Tools Required: Phillips screwdriver, Socket Set

1. Turn power OFF at the ON/OFF switch and unplug AC line cord from the electrical outlet.
2. Remove SCREWS (2) securing the ARM CAP SHROUD.
3. Locate and disconnect 2-PIN CONNECTOR.
4. Carefully remove the two MOUNTING BOLTS (9/16") with WASHERS securing HEART RATE HANDLEBAR ASSEMBLY to the SHAFT HUB ASSEMBLY of FRAME.

NOTE: HEART RATE HANDLEBAR ASSEMBLY MOUNTING HOLES ARE ROUNDED ON THE INNER ASSEMBLY. THE SHAFT HUB ASSEMBLY HOLES ARE BEVELED TO INSURE PROPER ASSEMBLY.

5. Place the new HEART RATE HANDLEBAR ASSEMBLY (notched edge towards the front of unit) and reverse steps 1 through 4 to insure proper replacement of part.



CAUTION!: BE CAREFUL NOT TO PINCH HEART RATE CABLE WHEN ASSEMBLING THE ARM CAP SHROUD. DO NOT OVER TIGHTEN THE SCREWS.

Life Fitness Model 9500 Cross-Trainer

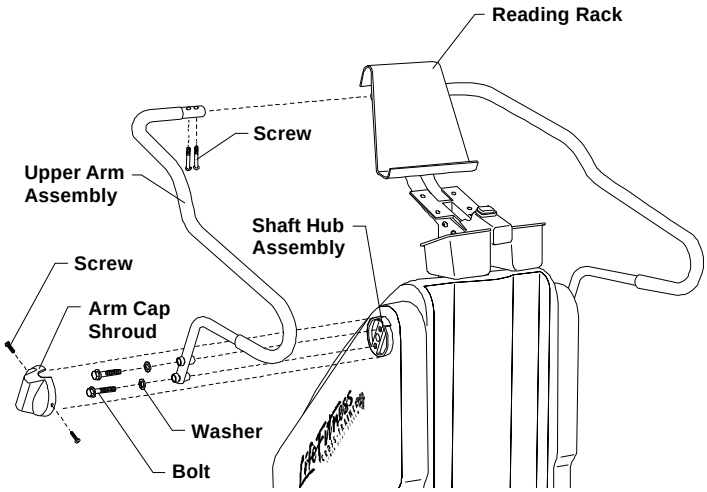
How To... Replace Upper Arm Assembly

Tools Required: Phillips screwdriver, Socket Set

1. Turn power OFF at the ON/OFF switch and unplug AC line cord from electrical outlet.

2. Remove two SCREWS securing the ARM CAP SHROUD

3. Carefully remove the two MOUNTING BOLTS (9/16") with WASHERS securing the UPPER ARM ASSEMBLY to the SHAFT HUB ASSEMBLY of FRAME and the two screws securing the UPPER ARM ASSEMBLY to the READING RACK ASSEMBLY.



NOTE: UPPER ARM ASSEMBLY MOUNTING HOLES ARE ROUNDED ON THE INNER ASSEMBLY. THE SHAFT HUB ASSEMBLY HOLES ARE BEVELED TO INSURE PROPER ASSEMBLY.

4. Place the new UPPER ARM ASSEMBLY(notched edge towards the front of unit) and reverse steps 1 through 3 to insure proper replacement of part.

CAUTION!: DO NOT OVER TIGHTEN THE SCREWS.

Life Fitness Model 9500HR Cross-Trainer

How To...Replace Right Side Shroud For Heart Rate Units

Tools Required: Torx key, or Standard flat screwdriver, Socket Set, Hex Key Set

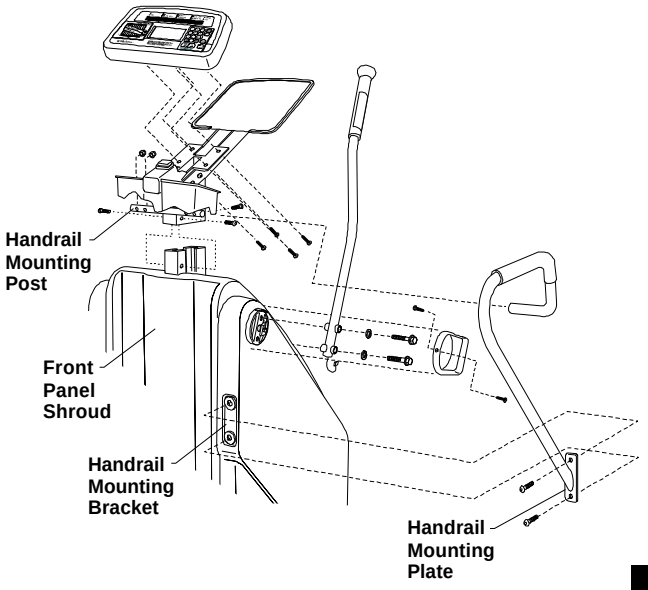
1. Turn power OFF at the On/Off switch and unplug line cord from electrical outlet.

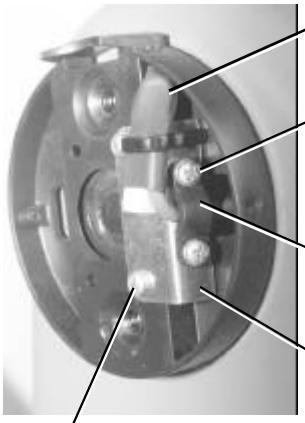
2. Remove HOOD SHROUD ASSEMBLY. See How To...

3. Remove RIGHT HEART RATE HANDLEBAR WITH ELECTRODES. See How To...

4. Carefully unwrap the INSULATED WIRE CLAMP away from the HEART RATE CABLE CONNECTOR, using a Phillips screwdriver remove the upper SCREW (1), and INSULATED WIRE CLAMP(1) securing the HEART RATE CABLE BRACKET to INNER SHROUD CAP.

5. Remove the upper SCREW (1) and loosen (do not remove) the lower SCREW (1) securing the HEART RATE CABLE CLAMP to the HEART RATE CABLE BRACKET.





6. Carefully place the HEART RATE CABLE, through the cut out area of the INNER SHROUD CAP and RIGHT SIDE SHROUD ASSEMBLY.

7. Remove the lower SCREW (1) securing both the HEART RATE CABLE BRACKET ASSEMBLY and the INNER SHROUD CAP, to the SHAFT HUB FRAME ASSEMBLY. Set aside.

8. Using a (3/16") Hex Key remove (2) BOLTS securing the user's right HANDRAIL MOUNTING PLATE to the HANDRAIL MOUNTING BRACKET.

9. Using wrench (1/2") loosen BOLTS (2) and NUTS (2) securing the user's right side HANDRAIL ASSEMBLY to the HANDRAIL MOUNTING POST.

10. Using a (T20) torx screwdriver remove SCREWS (4) securing the RIGHT SIDE SHROUD ASSEMBLY to the FRONT PANEL SHROUD, and SCREWS (2) securing the lower RIGHT SHROUD ASSEMBLY to the FRAME. Separate the DUAL-LOCK securing the FRONT PANEL SHROUD to the SIDE SHROUD ASSEMBLY.

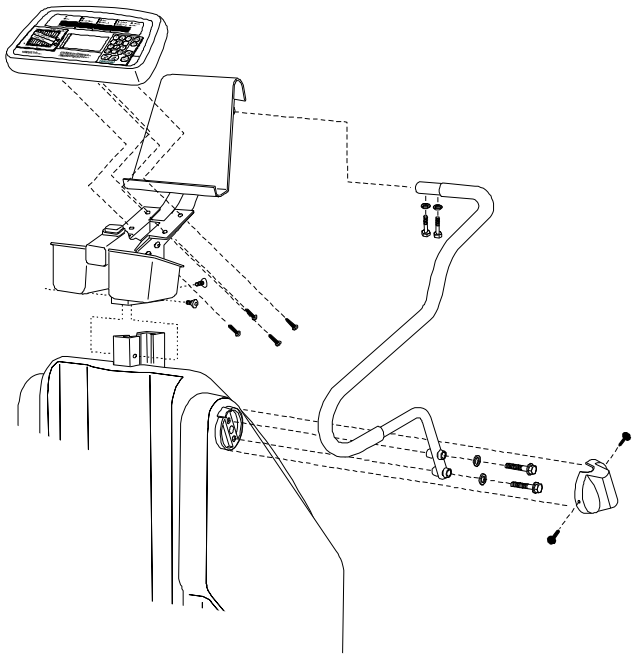
11. Carefully maneuver RIGHT SIDE SHROUD ASSEMBLY from between the HANDRAIL MOUNTING BRACKET and the HANDRAIL MOUNTING PLATE, then maneuver the SIDE SHROUD off and away from the SHAFT HUB ASSEMBLY, set aside.

12. Reverse steps 1 - 12 to replace all parts to proper position.

Life Fitness Model 9500 Cross-Trainer

How To... Replace Right Side Shroud For Non-Heart Rate Units

Tools Required: Torx key, or Standard flat screwdriver, Socket Set, Hex Key Set



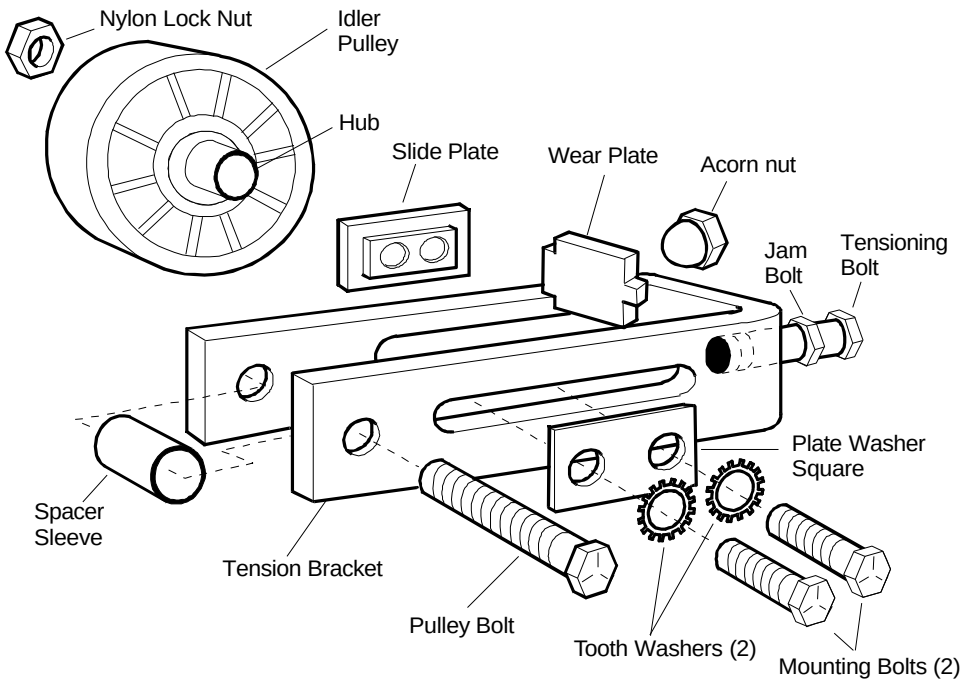
1. Turn power OFF at the On/Off switch and unplug line cord from electrical outlet.
2. Remove SCREWS (2) securing the ARM SHROUD CAP.
3. Using a wrench loosen (do not remove) BOLTS (2) securing the UPPER HANDRAIL ASSEMBLY to the READING RACK.
4. Using a wrench remove BOLTS (2) securing the LOWER HANDRAIL ASSEMBLY.
5. Remove the SCREWS (2) securing the INNER SHROUD CAP to the HANDRAIL MOUNTING PLATE.
6. Using a (T20) torx screwdriver remove SCREWS (7) securing the RIGHT SIDE SHROUD ASSEMBLY to the FRONT PANEL and the HOOD ASSEMBLY.
7. Carefully maneuer the RIGHT SIDE SHROUD ASSEMBLY from between the HANDRAIL MOUNTING PLATE, and the HANDRAIL ASSEMBLY, set aside.
8. Reverse steps 1 through 7 to replace all parts to proper position.

Life Fitness Model 9500 Series Cross-Trainers
How To... Replace the IDLER PULLEY TENSION BRACKET

Tools Required: Two 9/16 inch wrenches or sockets

WARNING: TURN THE POWER OFF AT THE ON/OFF SWITCH AND DISCONNECT THE PLUG FROM THE ELECTRICAL OUTLET PRIOR TO SERVICING ANY MACHINE OPERATING ON AC CURRENT.

1. Turn the unit off and unplug the power cord from the wall.
2. Loosen (do not remove) the two bracket mounting bolts.
3. Back out the tensioning bolt from the tension bracket.
4. Remove the bracket mounting bolts and remove the two-piece bracket assembly.
5. Discard the two-piece bracket.
6. Position the U-bracket with wide slot to the inside of the frame and the narrow slot over the mounting holes in the frame.
7. Place external tooth washer on each mounting bolt and install square plate washer over the mounting bolts.



8. Install the bolts through the U-bracket narrow slot and mounting holes in the frame.
9. Position the slide plate on the back side of the U-bracket and hand tighten the mounting bolts into the threaded plate.
10. Next position the spacer sleeve between the fork end of the U-bracket.
11. Position the pulley bolt through the bracket and spacer.
12. Now install the idler pulley on the bolt with its hub facing against the back side U-bracket.
13. Secure the nylon lock nut and tighten.
14. Place the main drive belt onto the idler pulley.
15. Position the wear plate between the slots of the U-bracket up against the frame.
16. Turn in the tensioning bolt as required to adjust the belt tension.
17. Using a belt tensioning gauge, adjust new belt tension from 165 to 170 lbs, and existing belt from 160 to 165 lbs. If a belt tensioning gauge is unavailable, place a straight edge between the intermediate pulley and the crank pulley then at the center of the belt press down on the belt and measure for deflection which should be a 1/4 inch.
18. With the main drive belt properly tensioned, tighten the bracket mounting bolts 5 to 10 ft. lbs.

NOTE: OVER TIGHTENING THE MOUNTING BOLTS WILL CAUSE DAMAGE TO THE SLIDE PLATE.

Life Fitness Model 9500 Series Cross-Trainers

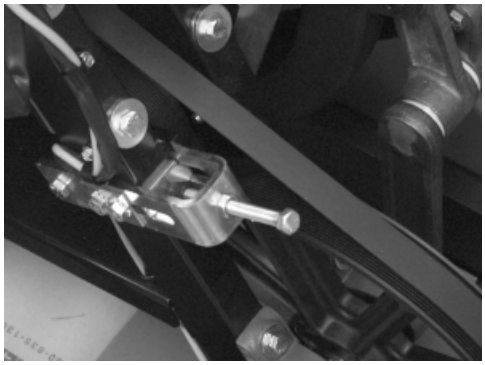
How To... Replace Drive Belt

Tools required: Hex Key Set, Open End Wrench, Socket Set, Flat Blade and Phillips screwdriver

WARNING: FAILURE TO OBSERVE SAFE PROCEDURES WHEN SERVICING THIS UNIT COULD RESULT IN INJURY AND OR ELECTRICAL SHOCK.

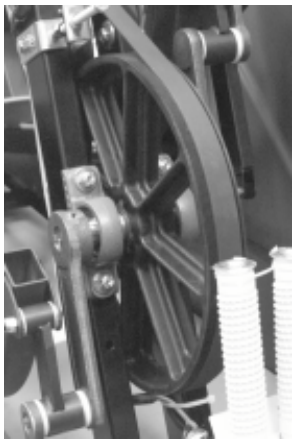
1. Turn power OFF at the ON/OFF switch then unplug power cord from electrical outlet.
2. Remove Hood Shroud Assembly. See How To...
3. Remove Right Side Shroud Assembly. See How To...
4. Loosen the ALTERNATOR BELT. See How To...

NOTE: NOTE THE POSITION OR PLACEMENT OF DRIVE BELT ON THE CRANK SHAFT ASSEMBLY PULLEY. PLACE NEW DRIVE BELT IN SAME LOCATION.



5. Locate the TENSION IDLER BRACKET, on the user's right side of FRAME locate OUTER TENSIONER PLATE. Using a socket wrench (9/16") loosen (do not remove) the BOLTS (2) and star WASHERS (2).
6. Using a socket wrench (9/16") loosen the TENSIONER IDLER ADJUSTMENT BOLT.
7. Using a (1/8") hex key remove the SET SCREW securing the KEY in the CRANK ARM and CRANK SHAFT.
8. Using a (3/16") hex key loosen (do not remove) the CLAMPING SCREW securing the CRANK ARM to the CRANK SHAFT.

SAFETY TIP: BEFORE PROCEEDING PLACE A BLOCK IN THE CRANK SHAFT PULLEY ASSEMBLY TO STOP THE CRANK SHAFT PULLEY ASSEMBLY FROM ROTATION WHEN CRANK ARM IS REMOVED.



9. Using a standard screw driver place the blade into the SLOT of the CRANK ARM ASSEMBLY , this will open the gap and allow for easier removal of the CRANK ARM ASSEMBLY. Carefully remove CRANK ARM ASSEMBLY and PEDAL LEVER ASSEMBLY from the CRANK SHAFT. Remove the KEY, and clean all burrs off the KEY. Carefully position the PEDAL LEVER ASSEMBLY and CRANK ARM ASSEMBLY on the floor inside unit.

NOTE: CAREFULLY REMOVE THE CRANKARM SQUARE KEYS. USE FINE SANDPAPER TO REMOVE BURRS FROM KEYS.

NOTE: BEFORE PROCEEDING MARK OR SCORE THE LOCATION OF THE PILLOW BLOCKS (TOP AND BOTTOM POSITIONS) OF THE INTERMEDIATE SHAFT AND CRANK SHAFT PULLEY ASSEMBLY.

THE LOCATION OF THESE PILLOW BLOCKS ARE CRITICAL FOR PROPER LIFE AND OPERATION OF DRIVE SYSTEM.

How To... Replace Drive Belt (Continued)

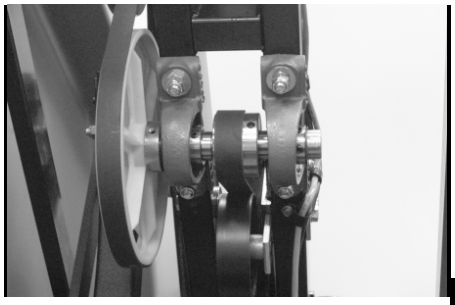
10. Using a hex key (1/8") loosen and remove the SET SCREWS (2) in the PILLOW BLOCK BEARINGS.

11. Using two wrenches (9/16'), remove the NYLON LOCK NUTS (2), BOLTS (2), and WASHERS, securing the user's right side PILLOW BLOCK to the FRAME.

12. Carefully remove the PILLOW BLOCK.

NOTE: SCRIBE OR MARK THE LOCATION OF THE INTERMEDIATE SHAFT ASSEMBLY BEFORE REMOVAL.

13. Loosen the SET SCREWS (2), securing the PILLOW BLOCK BEARINGS to the INTERMEDIATE SHAFT ASSEMBLY.



14. Using two wrenches (9/16"), remove the NYLON LOCK NUTS (2), BOLTS (2), and WASHERS, securing the user's right side PILLOW BLOCK to the FRAME.

NOTE: NOTE THE POSITION AND LOCATION OF THE DRIVE BELT ON THE CRANK SHAFT PULLEY ASSEMBLY AND THE TENSIONER IDLER ASSEMBLY.

15. Carefully remove the PILLOW BLOCK.

16. Remove the old DRIVE BELT and replace with the new DRIVE BELT. Reverse steps 9 through 15 to return part to proper position. Torque PILLOW BLOCK bolts and nuts 20-25 ft. lbs.

IMPORTANT: REPLACE ALL SET SCREWS IN PILLOW BLOCKS AND CRANK ARM ASSEMBLY WITH NEW SET SCREWS WITH LOCKING PATCH TO INSURE A PROPER LOCK.

17. Place the CRANK ARM and PEDAL LEVER ASSEMBLY onto the SHAFT, slide the KEY into position.

18. First tighten the new KEY SET SCREW to 60-70 in. lbs., then the CLAMPING SCREW to 120-130 in. lbs. This will insure a proper placement of the KEY in the CRANK SHAFT ASSEMBLY.

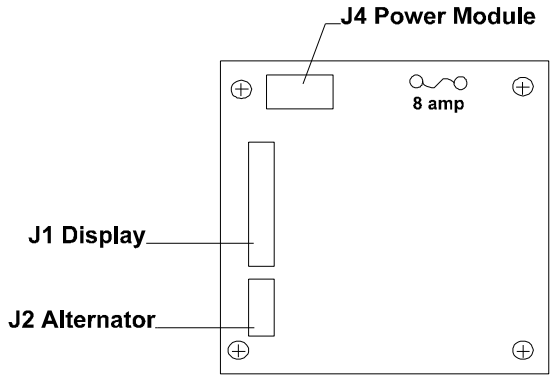
19. Tension the ALTERNATOR BELT. (See "How To...")

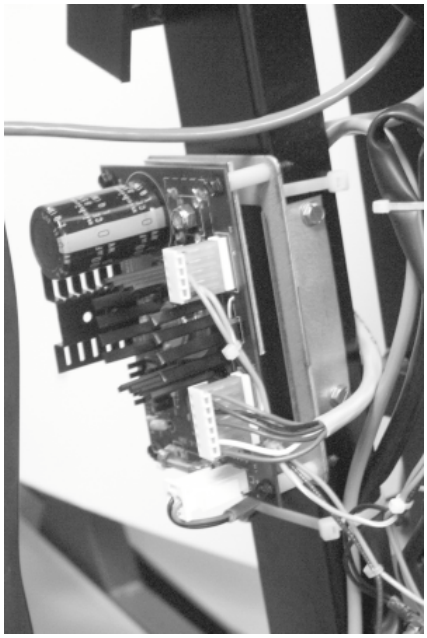
Life Fitness Model 9500 Series Cross-Trainers

How To...Replace Power Control Board Bracket Assembly

Tools Required: Torx screwdriver, Side cutter pliers, Phillips screwdriver

1. Turn power off at the ON/OFF switch and unplug ac line cord from electrical outlet.
2. Remove HOOD SHROUD ASSEMBLY. (See “How To...”)
3. Locate the POWER CONTROL BOARD BRACKET ASSEMBLY. Disconnect the POWER CONTROL BOARD CONNECTORS (3) J1, J2, and J4.
4. With a screwdriver, remove the SCREWS (2) and remove faulty POWER CONTROL BOARD BRACKET ASSEMBLY.
5. Reverse steps 1 through 4 to return all parts to proper location.





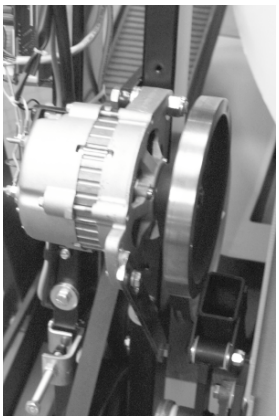
How To... Replace Alternator

Tools Required: Torx key, or Standard flat screwdriver, Socket Set, Hex Key Set

1. Turn power OFF at the On/Off switch and unplug line cord from electrical outlet.
2. Remove HOOD SHROUD ASSEMBLY. (See “How To ...”)

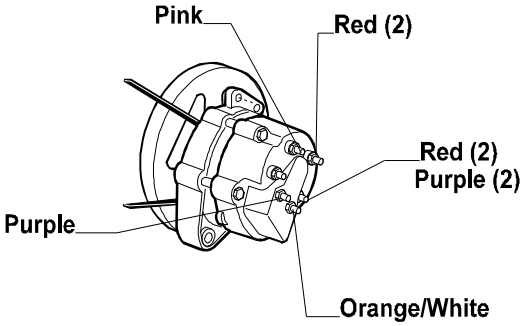
NOTE: NOTE THE POSITION OF WIRE CONNECTIONS ON ALTERNATOR BEFORE REMOVAL.

3. Disconnect WIRE CONNECTION (5) from the ALTERNATOR ASSEMBLY.



4. Using a wrench (1/2”) loosen and remove the TENSIONING BOLT from the ALTERNATOR BRACKET STRAP.

5. Using two wrenches (3/4”), loosen the ALTERNATOR PIVOT MOUNTING BOLT and NUT. Carefully remove the ALTERNATOR BELT and set aside.



6. With the ALTERNATOR BELT removed, carefully remove the ALTERNATOR PIVOT MOUNTING BOLT, WASHER and NUT securing the ALTERNATOR ASSEMBLY to the FRAME.

7. Carefully place the new ALTERNATOR into position and reverse step 1 through 7 to return all parts to their proper position.

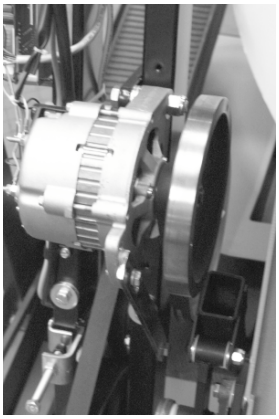
HELPFUL HINT: TO ADJUST THE ALTERNATOR BELT TENSION, POSITION A WEDGE TOOL AGAINST THE FRAME BRACKET UNDER THE ALTERNATOR. IF GAUGES ARE AVAILABLE TENSION A NEW BELT TO 70-80 FT/LB., 60-70 FT/LB. FOR OLD. IF GAUGES NOT AVAILABLE TENSION TO 1/4” DEFLECTION.

Life Fitness Model 9500 Series Cross-Trainers

How To... Replace Alternator Belt

Tools Required: Torx key, or Standard flat screwdriver, Socket Set, Hex Key Set

1. Turn power OFF at the On/Off switch and unplug line cord from electrical outlet.
2. Remove HOOD SHROUD ASSEMBLY. (See “How To...”)
3. Using a wrench (1/2”) loosen the TENSIONING BOLT from the ALTERNATOR and ALTERNATOR BRACKET STRAP.



4. Using two wrenches (3/4”), loosen the ALTERNATOR PIVOT MOUNTING BOLT and NUT securing the ALTERNATOR ASSEMBLY to the FRAME.
5. Carefully remove ALTERNATOR BELT from assembly.
6. Carefully place the new ALTERNATOR BELT into position, tension to 70-80 ft/lb. (if gauges are not available allow for 1/4” deflection) and reverse step 1 through 5 to return all parts to their proper position.

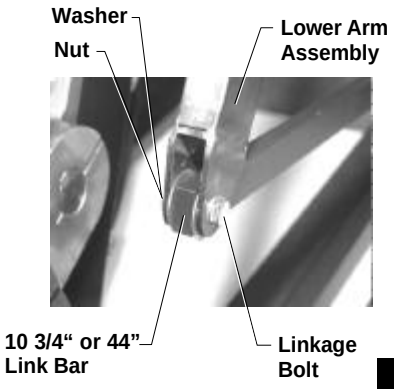
HELPFUL HINT: TO ADJUST THE ALTERNATOR BELT TENSION, POSITION A WEDGE TOOL AGAINST THE FRAME BRACKET UNDER THE ALTERNATOR.

Life Fitness Model 9500 Series Cross-Trainers

How To... Replace Pedal Lever Assembly

Tools required: Torx screwdriver (T20), Socket set, Open end wrench set

1. Turn power OFF at the On/Off switch and unplug ac line cord from electrical outlet.
2. Remove HOOD SHROUD ASSEMBLY. (See "How To...")
3. Using a torx screwdriver, remove SCREWS (4) securing the REAR STEP ASSEMBLY. Carefully lift from FRAME and set aside.
4. Using a torx screwdriver, remove SCREWS (4) securing the REAR FRAME PLATE mounted to the rear of the unit.
5. Pivot the user right PEDAL LEVER ASSEMBLY to its extreme forward position.

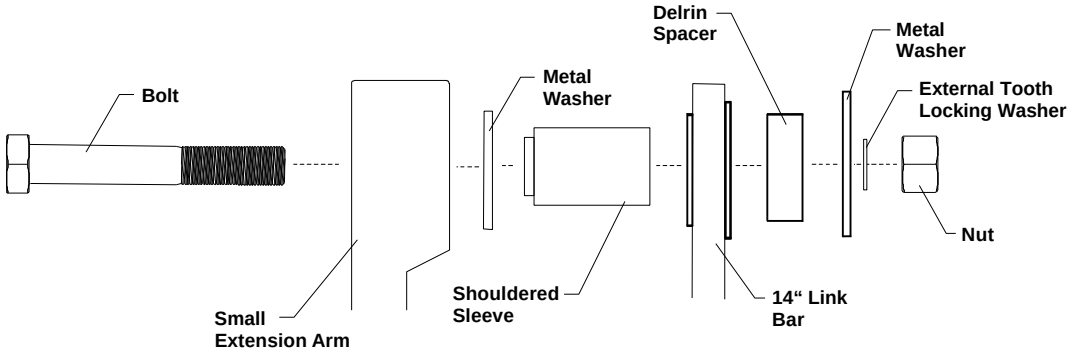


(Model 9500HR Only)
Locate the user right LOWER ARM ASSEMBLY and the 44" or 10 3/4" LINK BAR (revision oriented). Remove the NUT, LOCKING WASHER and LINKAGE BOLT to free the 44" or 10 3/4" LINK BAR from the LOWER ARM ASSEMBLY. Be careful while disconnecting the two ASSEMBLIES not to let them drop or swing and possibly cause damage to the machine.

6. Locate the user right PEDAL LEVER ASSEMBLY) and the 4" LINK ASSEMBLY pivot point. Using a 9/16" socket and a 7/32" hex key, remove the NUT, two WASHERS, and BOLT from the PEDAL LEVER ASSEMBLY and the 4" LINK on the CRANK ARM ASSEMBLY. Carefully rotate the 4" LINK out of the way.
7. Using two 9/16" wrenches, remove the NUT, METAL WASHER, DELRIN SPACER, BOLT, and SHOULDERED SLEEVE, and WASHER from the 14" LINK BAR and the SMALL EXTENSION pivot point.

CAUTION: BY REMOVING THE BOLT, YOU WILL BE SEPARATING THE PEDAL LEVER ASSEMBLY AND THE 14" LINK BAR (I), THIS WILL CAUSE THE CRANK ARM ASSEMBLY TO ROTATE.

SAFETY TIP: PLACE A BLOCK BETWEEN THE CRANK ARM PULLEY ASSEMBLY AND FRAME TO PREVENT CRANK ARM ASSEMBLY ROTATION.



6. Carefully place the user right PEDAL LEVER ASSEMBLY on the floor.
7. Slide the PEDAL LEVER ASSEMBLY out from the rear of the machine.
8. Reverse steps 1 through 9 to return parts to the proper location.

Life Fitness Model 9500 Series Cross-Trainers

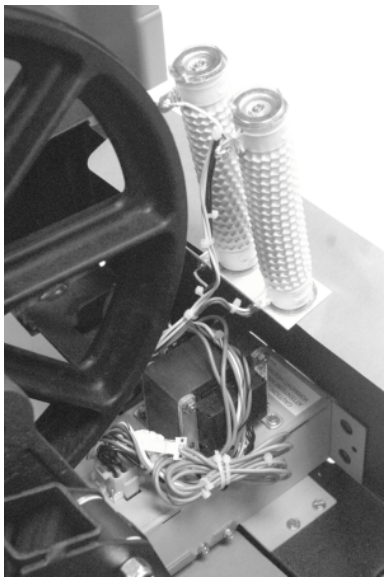
How To...Replace Power Module Assembly

Tools Required: Torx screwdriver, Side cutter pliers, Socket Set

1. Turn power off at the ON/OFF switch and unplug ac line cord from electrical outlet.
2. Remove the HOOD SHROUD ASSEMBLY (See “How To...”).
3. Disconnect the 2 PIN CONNECTOR at CABLE CONNECTION in base of the unit and the POWER MODULE ASSEMBLY. Replace ALL wire ties.

NOTE: THE CABLE FROM THE POWER CONTROL BOARD TO THE POWER MODULE DOES NOT NEED TO BE REMOVED; DISCONNECT AT BASE OF FRAME.

4. With a socket wrench (5/16”), loosen and remove the GROUND TERMINAL NUT which attaches the GROUNDING STRAP to the FRAME.
5. With a socket wrench (5/16”), loosen and remove the MOUNTING SCREWS (4) securing the POWER MODULE to the FRAME. Carefully lift POWER MODULE out from unit.
6. Reverse steps 1 through 5 to return all parts to proper position.



Life Fitness Model 9500HR Cross-Trainer
How To... Replace Crank Shaft Pulley Assembly

Tools required: Hex Key Set, Open End Wrench, Socket Set, Flat Blade and Phillips screwdriver, Torxdriver

WARNING: FAILURE TO OBSERVE SAFE PROCEDURES WHEN SERVICING THIS UNIT COULD RESULT IN INJURY AND OR ELECTRICAL SHOCK

1. Turn power OFF at the ON/OFF switch then unplug power cord from electrical outlet.

2. Remove Hood Shroud Assembly. (See "How To...")

3. Remove Right Side Shroud Assembly. (See "How To...")

4. Locate the TENSION IDLER BRACKET, and the OUTER TENSIONER PLATE on the user's right side of FRAME. Using a socket wrench (9/16") loosen (do not remove) the BOLTS (2) and star WASHERS (2).

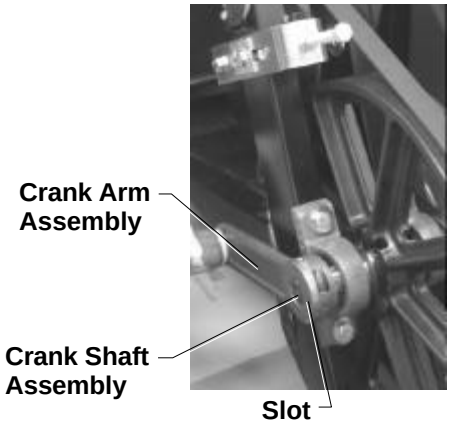
HINT: MARK THE LOCATION OF THE JAM NUT ON THE TENSIONER IDLER BRACKET. THIS WILL AID IN RE-TENSIONING THE DRIVE BELT.

5. Using a socket wrench (9/16") loosen the TENSIONING BOLT.

SAFETY TIP: BEFORE PROCEEDING PLACE A BLOCK IN THE CRANK SHAFT PULLEY ASSEMBLY TO STOP THE CRANK SHAFT PULLEY ASSEMBLY FROM ROTATING WHEN CRANK ARM IS REMOVED.

6. Locate the mounting point of the CRANK ARM ASSEMBLY and CRANK SHAFT ASSEMBLY. Using a (1/8") hex key loosen the SET SCREW securing the KEY in the CRANK ARM and CRANK SHAFT. Loosen the CLAMPING SCREW using a (3/16") hex key securing the CRANK ARM to the CRANK SHAFT.

7. Using a standard screw driver place the blade into the SLOT of the CRANK ARM ASSEMBLY , this will open the gap and allow for easier removal of the CRANK ARM ASSEMBLY. Carefully remove CRANK ARM ASSEMBLY and PEDAL LEVER ASSEMBLY from the CRANK SHAFT Remove the KEY, and clean all burrs off the KEY. Carefully position the PEDAL LEVER ASSEMBLY and CRANK ARM ASSEMBLY on the floor inside unit.



8. Carefully rotate the CRANK PULLEY ASSEMBLY into position for removal of the users left side PEDAL LEVER and CRANK ARM ASSEMBLY, repeat steps 7 through 8.

NOTE: BEFORE PROCEEDING MARK OR SCORE THE LOCATION OF THE PILLOW BLOCKS (TOP AND BOTTOM POSITIONS) OF CRANK SHAFT PULLEY ASSEMBLY. THE LOCATION OF THESE PILLOW BLOCKS ARE CRITICAL FOR PROPER LIFE AND OPERATION OF DRIVE SYSTEM.

9. Using an open end wrench (9/16) along with a socket wrench (9/16) remove the NYLON LOCK NUTS (2), BOLTS (2), and WASHERS, securing the user's right side PILLOW BLOCK to the CRANK ARM PULLEY SHAFT. Repeat step for left side.

NOTE: THE POSITION OF THE DRIVE BELT WITH THE TENSIONER IDLER ASSEMBLY.

10. Carefully remove main DRIVE BELT from around the CRANK SHAFT PULLEY ASSEMBLY and replace faulty part.

11. Reverse steps 1 through 11 to return all parts proper position.

Life Fitness Model 9500 Series Cross-Trainers

How To... Replace Intermediate Pulley Assembly

Tools required: Hex Key Set, Open End Wrench, Socket Set, Flat Blade and Phillips screwdriver, Torxdriver

WARNING: FAILURE TO OBSERVE SAFE PROCEDURES WHEN SERVICING THIS UNIT COULD RESULT IN INJURY AND OR ELECTRICAL SHOCK

1. Turn power OFF at the ON/OFF switch then unplug power cord from electrical outlet.
2. Remove Hood Shroud Assembly. (See “How To...”)
3. Using a Torxdriver (T20), remove the four screws securing the PANEL SHROUD to the SIDE SHROUDS.
4. Remove the ALTERNATOR BELT. (See “How To...”)

NOTE: NOTE THE POSITION OR PLACEMENT OF DRIVE BELT ON THE INTERMEDIATE SHAFT ASSEMBLY PULLEY. PLACE DRIVE BELT IN SAME LOCATION.

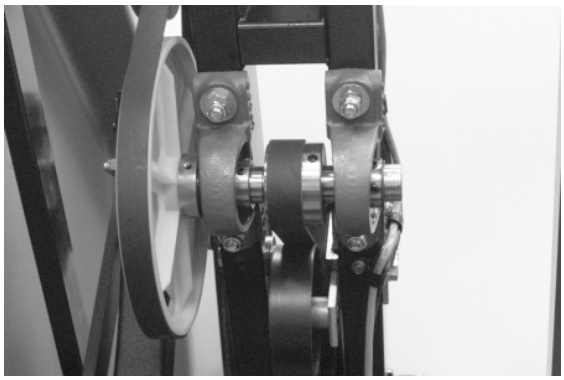
5. Locate the IDLER PULLEY TENSION BRACKET and its MOUNTING BOLTS on the user’s right side of DRIVE FRAME. Using a socket wrench (9/16”), loosen but do not remove the two BOLTS and star WASHERS.

HINT: MARK THE LOCATION OF THE JAM NUT ON THE TENSIONER IDLER BRACKET. THIS WILL AID IN RE-TENSIONING THE DRIVE BELT.

6. Using a socket wrench (9/16”), loosen the TENSIONING BOLT.

NOTE: BEFORE PROCEEDING MARK OR SCORE THE LOCATION OF THE PILLOW BLOCKS (TOP AND BOTTOM POSITIONS) OF INTERMEDIATE SHAFT PULLEY ASSEMBLY. THE LOCATION OF THESE PILLOW BLOCKS ARE CRITICAL FOR PROPER LIFE AND OPERATION OF DRIVE SYSTEM.

7. Using an open end wrench (9/16”) along with a socket wrench (9/16”), remove the two NYLON LOCK NUTS, BOLTS, and WASHERS, securing the user’s right side PILLOW BLOCK to the INTERMEDIATE SHAFT PULLEY. Repeat for left side.



NOTE: THE POSITION OF THE DRIVE BELT WITH THE TENSIONER IDLER ASSEMBLY.

Carefully remove INTERMEDIATE SHAFT PULLEY ASSEMBLY and replace faulty part.

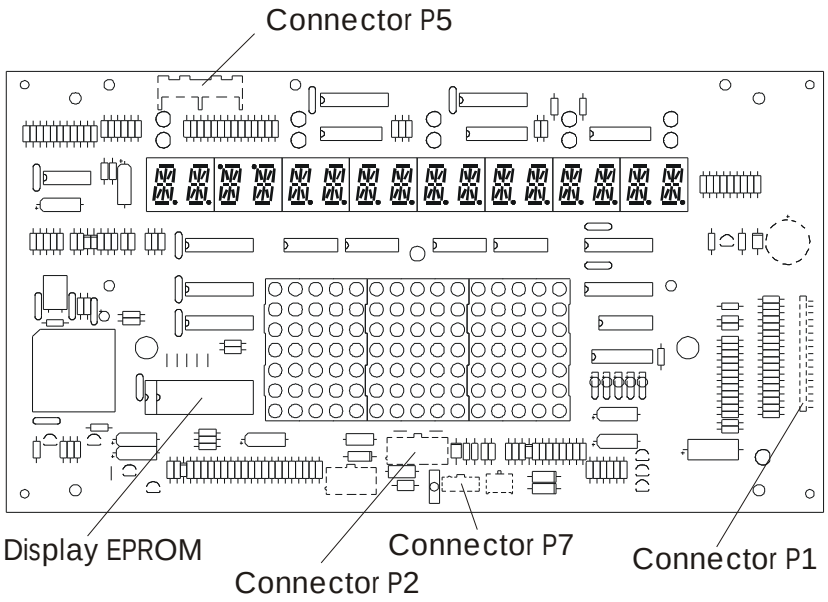
8. Reverse steps 1 through 8 to return all parts proper position.
9. Adjust the IDLER PULLEY TENSION. (See “How To...”)
10. Tension the ALTERNATOR BELT. (See “How To...”)

SECTION IV

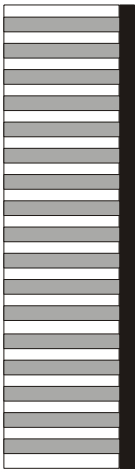
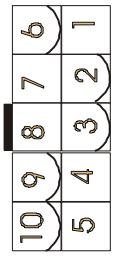
ELECTRONICS OVERVIEW AND WIRING BLOCK DIAGRAMS

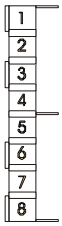
Functional Description

The Display Console Board is designed to work in conjunction with the Alternator Control Board. It reads the keypad input for changes or updates by the user, and refreshes the status LEDs, data display, and profile display matrix.



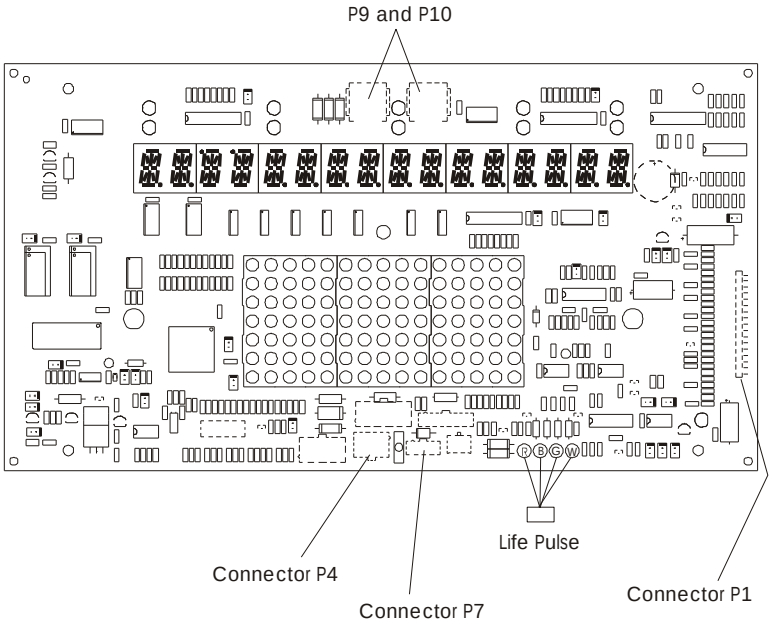
Connectors and Pin Descriptions

Connector	Location	Pin	Functional Description
P1 is a 17 pin, ribbon connector that connects to the Overlay Board		1	Ground
		2	Strobe
		3	Strobe
		4	Return
		5	Strobe
		6	Return
		7	Strobe
		8	Return
		9	Strobe
		10	Return
		11	Ground
		12	Start
		13	Strobe
		14	Return
		15	Strobe
		16	Return
		17	Ground
P2 is a 10 pin connects to the Alternator Control Board		1	VSYS – POWER CONTROL (7-8VDC)
		2	RPM (0-7.5 VDC)
		3	GROUND
		4	LOAD
		5	VBAT – (6 VDC)
		6	ALTREGLO (7-8 VDC)
		7	FLDCMD
		8	START
		9	VBAT – (6VDC)
		10	VBAT – (6VDC)

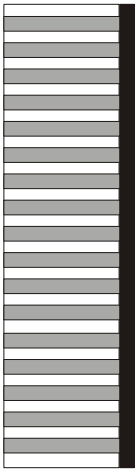
Connector	Location	Pin	Functional Description
P5 is an 8 pin connector that connects the Life Pulse Board to the Console Board. Equipped for LC9500HR only.		1	HR-ENABLE (3.8 VDC)
		2	KEY
		3	VSYS (7-8 VDC)
		4	VSYS (7-8 VDC)
		5	GROUND
		6	GROUND
		7	HR-D0 (4.5 VDC)
		8	HR-D1 (4.5 VDC)
P7 is a 3 pin connector that comes from the Polar connector		1	+VCC (5VDC)
		2	POLAR SIGNAL
		3	GROUND

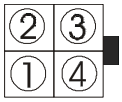
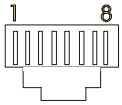
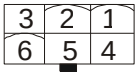
Functional Description

The Display Console Board is designed to work in conjunction with the Alternator Control Board. It reads the keypad input for changes or updates by the user, and refreshes the status LEDs, data display, and profile display matrix.



Connectors and Pin Descriptions

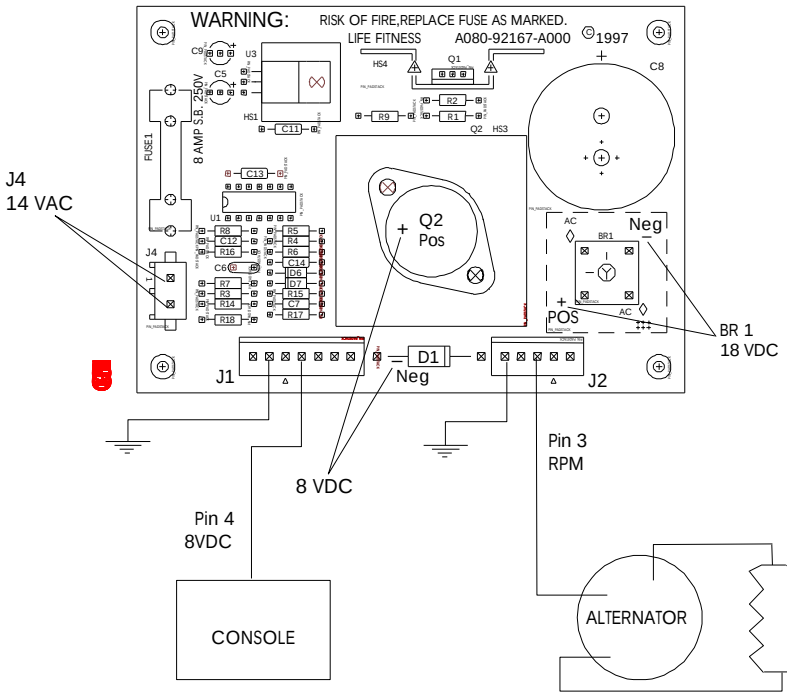
Connector	Location	Pin	Functional Description
P1 is a 17 pin, ribbon connector that connects to the Overlay Board		1	Ground
		2	Strobe
		3	Strobe
		4	Return
		5	Strobe
		6	Return
		7	Strobe
		8	Return
		9	Strobe
		10	Return
		11	Ground
		12	Start
		13	Strobe
		14	Return
		15	Strobe
		16	Return
		17	Ground

Connector	Location	Pin	Functional Description
Life Pulse		1	Right +
		2	Right -
		3	Left -
		4	Left +
P9 and P10 are 8 pin connectors that connect to the CSAFE and Cardio Theater interface		1	N/U - not used
		2	N/U - not used
		3	Receive Data
		4	Transmit Data
		5	+8 Vdc
		6	CTS
		7	Ground
		8	N/U - not used
P7 is a 3 pin connector that connects the polar receiver to the console		1	+VCC (5VDC)
		2	POLAR SIGNAL
		3	GROUND
P4 is a 6 pin connector that connects to the alternator control board		1	VSYS +8 VDC
		2	Ground
		3	Load
		4	VSYS +8 VDC
		5	Ground
		6	RPM 0-7.5 VDC

ELECTRONICS OVERVIEW - ALTERNATOR CONTROL BOARD

Functional Description

The Alternator Control Board is designed to regulate the alternator voltage by modulating the field current. It regulates the pass current (RPM signal) from the Alternator to the Console, and the pass current form the alternator to the load resistor while providing supply voltage for the console while charging the system battery.



See Wiring Diagram for more detailed information

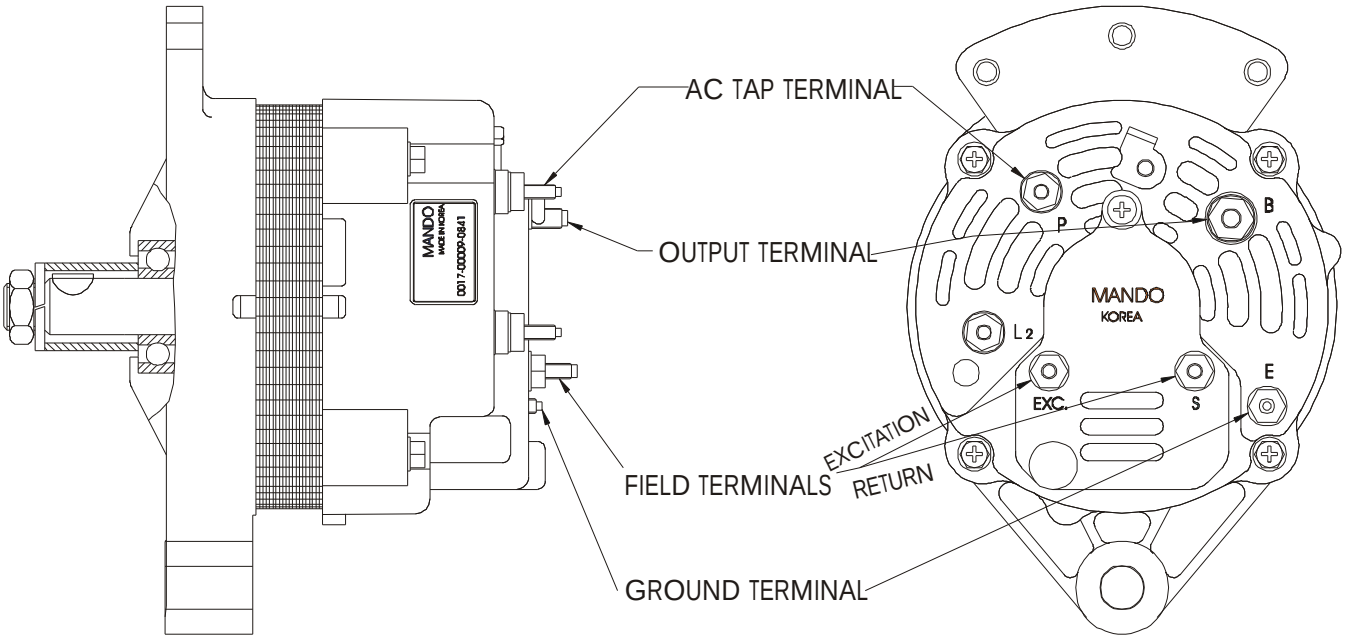
Connectors and Pin Connections

Connector	Location	Pin	Functional Description
J4 a 2 pin connector that connects the control board to the power supply.		1	14 VAC
		2	14 VAC
J2 a 5 pin connector that connects the control board to the alternator.		1	Ground
		2	Key
		3	RPM Sensor
		4	Field Ctrl
		5	Field Return
J1 a 7 pin connector that connects to the control board to the console.		1	Field Ctrl
		2	RPM Sensor
		3	+8VDC
		4	+8VDC
		5	Key
		6	Ground
		7	Ground

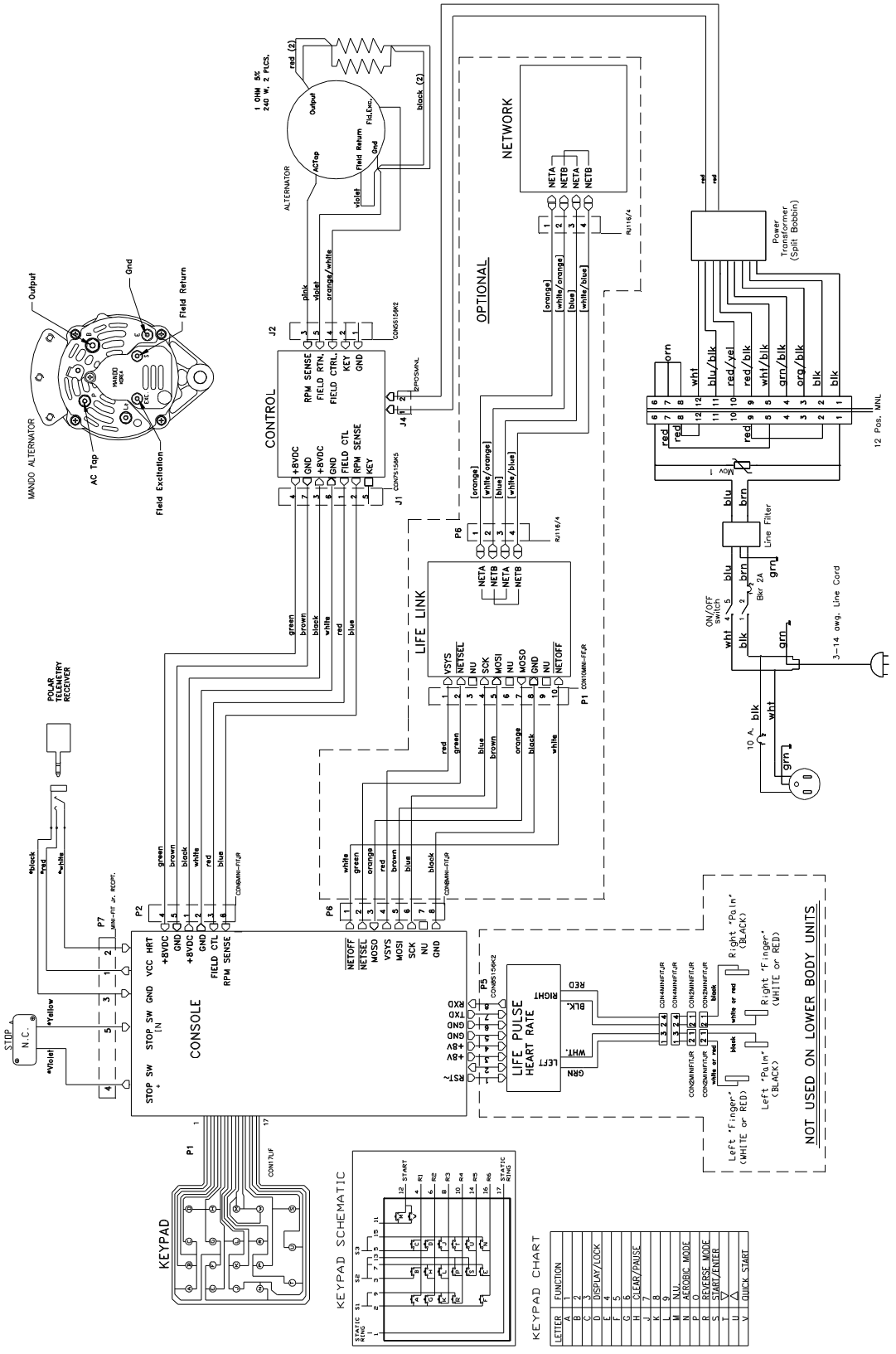
ELECTRONICS OVERVIEW - ALTERNATOR

Functional Description

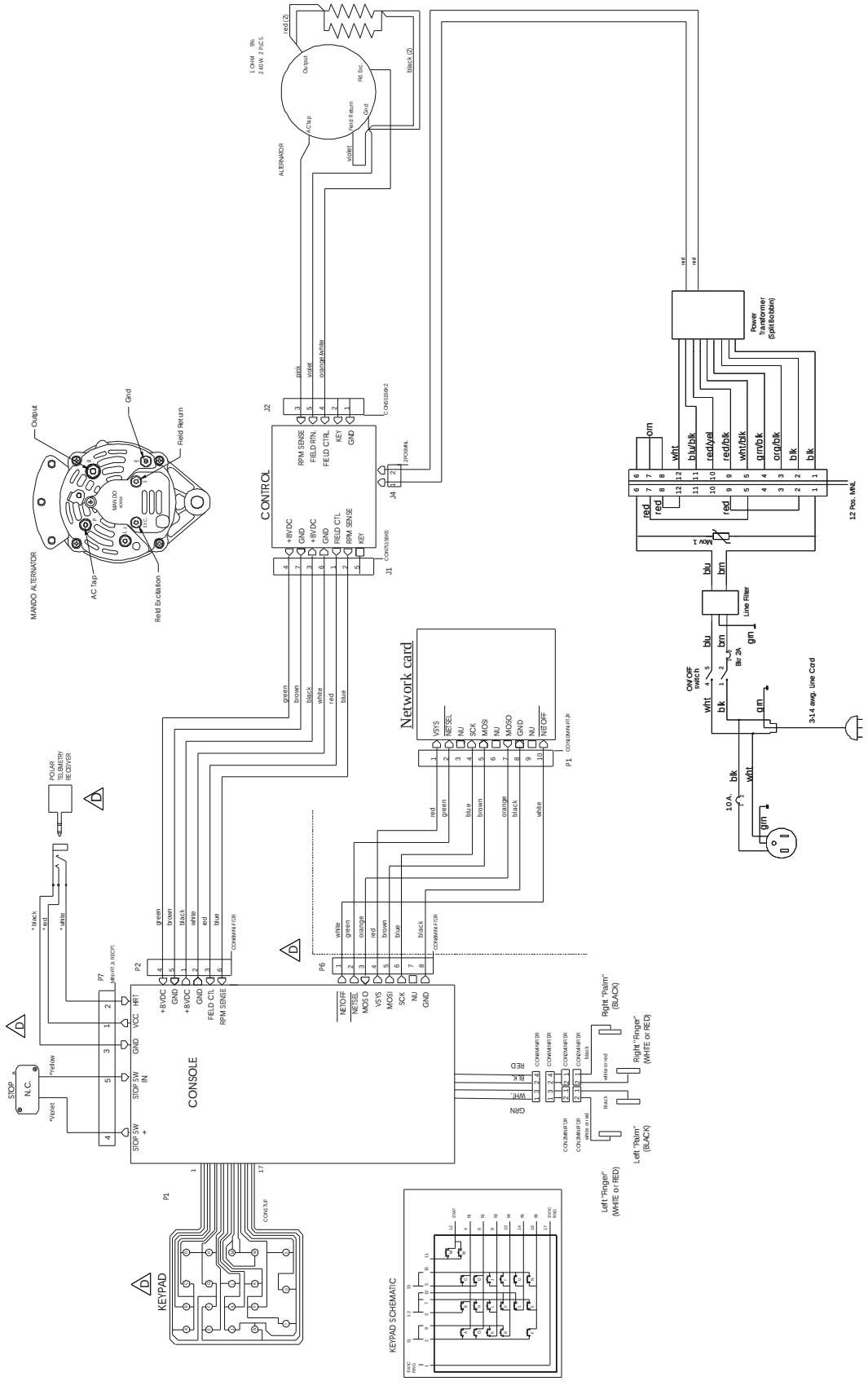
The 12 volt, 35 amp Alternator is designed to provide electrical power to the product, supply load resistance while providing electrical power, and provice the RPM signal from the AC TAP to the Alternator Control Board.



WIRING BLOCK DIAGRAM - DSP Heart Rate Board



WIRING BLOCK DIAGRAM (Integrated PCB)

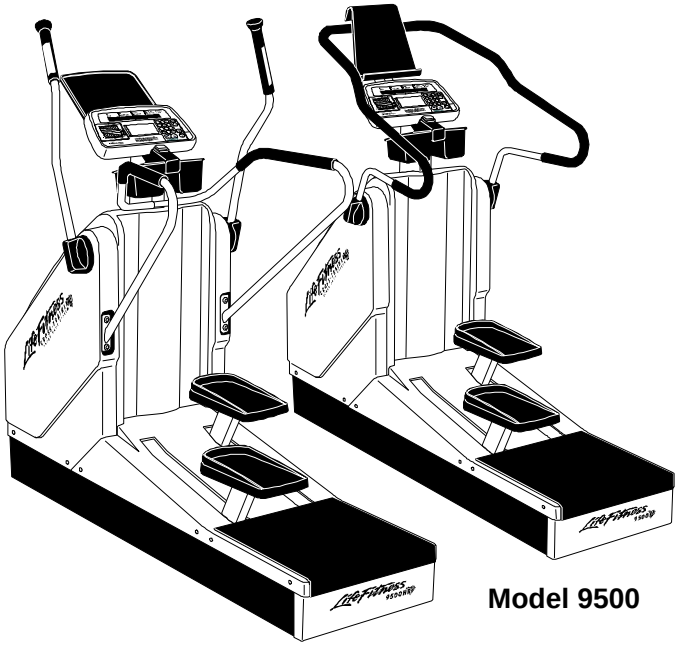


NOTES:

SECTION V

PARTS IDENTIFICATIONS

Cross-Trainer Model Identification

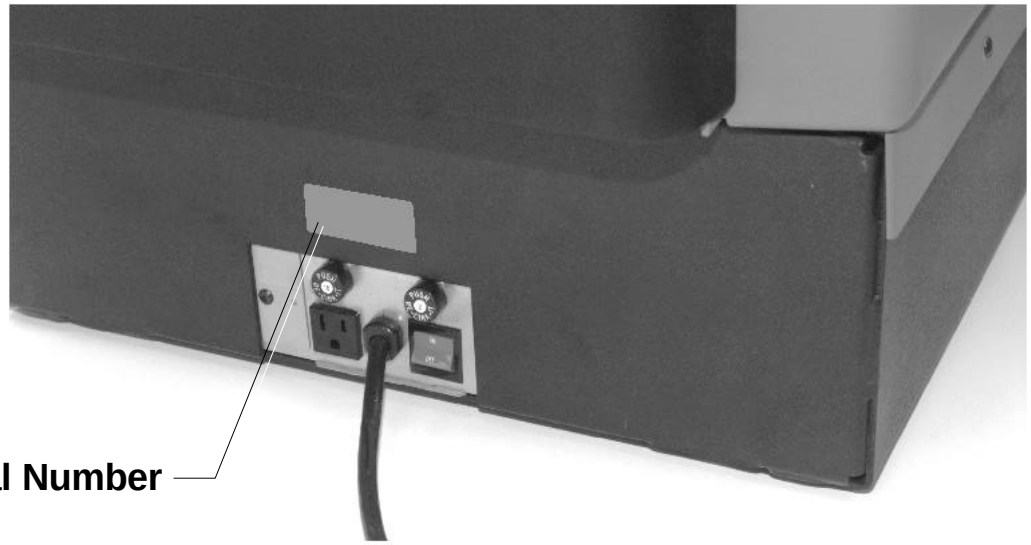


Model 9500

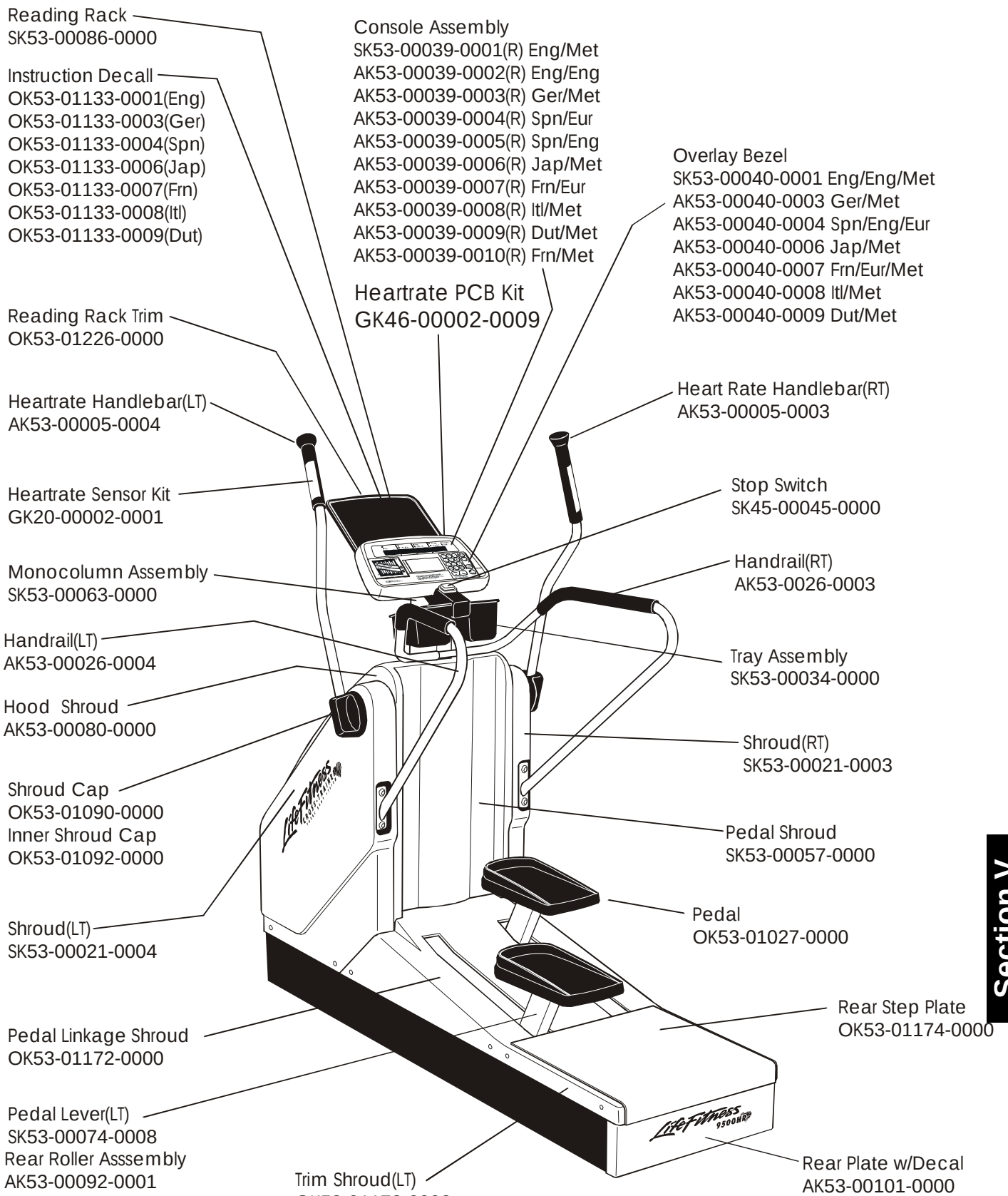
Model 9500HR

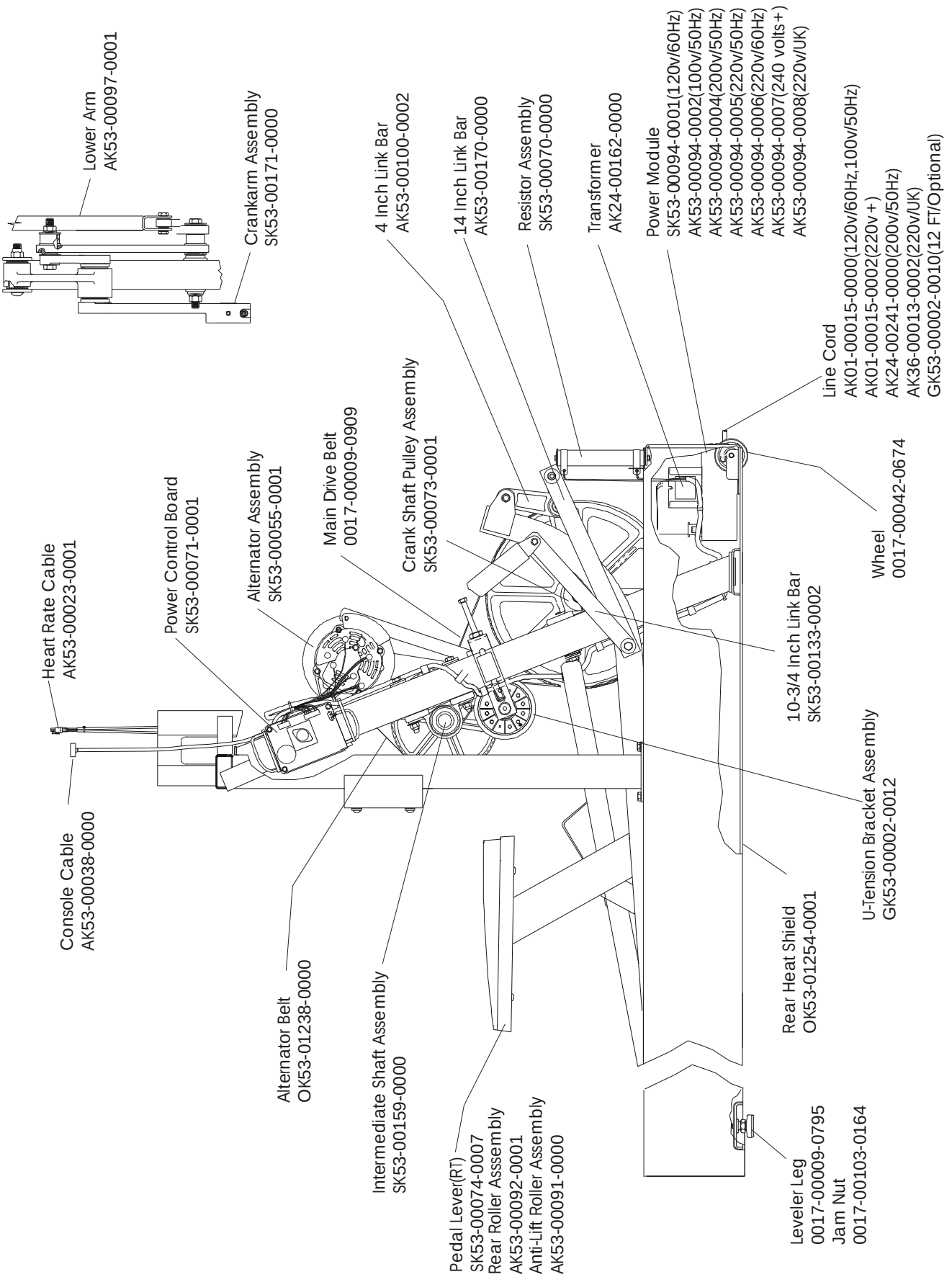
Serial Number Location

Life Fitness Model 9500 Series Cross-Trainers



GK53-00012-XXXX
Serial Number 669724 - UP




Lower Arm
AK53-00097-0001
Crankarm Assembly
SK53-00171-0000
4 Inch Link Bar
AK53-00100-0002
14 Inch Link Bar
AK53-00170-0000
Resistor Assembly
SK53-00070-0000
Transformer
AK24-00162-0000
Power Module
SK53-00094-0001(120v/60Hz)
AK53-00094-0002(100v/50Hz)
AK53-00094-0004(200v/50Hz)
AK53-00094-0005(220v/50Hz)
AK53-00094-0006(220v/60Hz)
AK53-00094-0007(240 volts+)
AK53-00094-0008(220v/UK)
Line Cord
AK01-00015-0000(120v/60Hz,100v/50Hz)
AK01-00015-0002(220v+)
AK24-00241-0000(200v/50Hz)
AK36-00013-0002(220v/UK)
GK53-00002-0010(12 FT/Optional)
Heart Rate Cable
AK53-00023-0001
Power Control Board
SK53-00071-0001
Alternator Assembly
SK53-00055-0001
Main Drive Belt
0017-00009-0909
Crank Shaft Pulley Assembly
SK53-00073-0001
Wheel
0017-00042-0674
10-3/4 Inch Link Bar
SK53-00133-0002
Console Cable
AK53-00038-0000
Alternator Belt
OK53-01238-0000
Intermediate Shaft Assembly
SK53-00159-0000
U-Tension Bracket Assembly
GK53-00002-0012
Rear Heat Shield
OK53-01254-0001
Pedal Lever(RT)
SK53-00074-0007
Rear Roller Assembly
AK53-00092-0001
Anti-Lift Roller Assembly
AK53-00091-0000
Leveler Leg
0017-00009-0795
Jam Nut
0017-00103-0164

GK53-00014-XXXX
Serial Number 665000 - 669723

Instruction Decall
OK53-01291-0001(Eng)
OK53-01291-0003(Ger)
OK53-01291-0004(Spn)
OK53-01291-0006(Jap)
OK53-01291-0007(Frn)
OK53-01291-0008(Itl)
OK53-01291-0009(Dut)

Console Assembly
AK53-00126-0001(R) Eng/Eng/Met
AK53-00126-0003(R) Ger/Met
AK53-00126-0004(R) Spn/Met
AK53-00126-0006(R) Jap/Met
AK53-00126-0007(R) Frn/Met
AK53-00126-0008(R) Itl/Met
AK53-00126-0009(R) Dut/Met

Reading Rack Trim
OK53-01302-0000

Overlay Bezel
SK53-00040-0001 Eng/Eng/Met
AK53-00040-0003 Ger/Met
AK53-00040-0004 Spn/Met
AK53-00040-0006 Jap/Met
AK53-00040-0007 Frn/Met
AK53-00040-0008 Itl/Met
AK53-00040-0009 Dut/Met

Handrail w/Grip(LT)
SK53-00145-0002

Stop Switch
AK45-00045-0000

Monocolumn
w/Reading Rack
AK53-00118-0001

Handrail w/Grip(RT)
SK53-00145-0001

Hood Shroud
AK53-00080-0000

Tray Assembly
SK53-00034-0000

Shroud Cap
OK53-01090-0000
Inner Shroud Cap
OK53-01092-0000

Shroud w/Decal(RT)
AK53-00120-0001

Pedal Shroud
SK53-00057-0000

Shroud w/Decal(LT)
AK53-00120-0002

Pedal
OK53-01027-0000

Pedal Linkage Shroud
OK53-01172-0000

Rear Step Plate
OK53-01174-0000

Pedal Lever(LT)
SK53-00125-0004

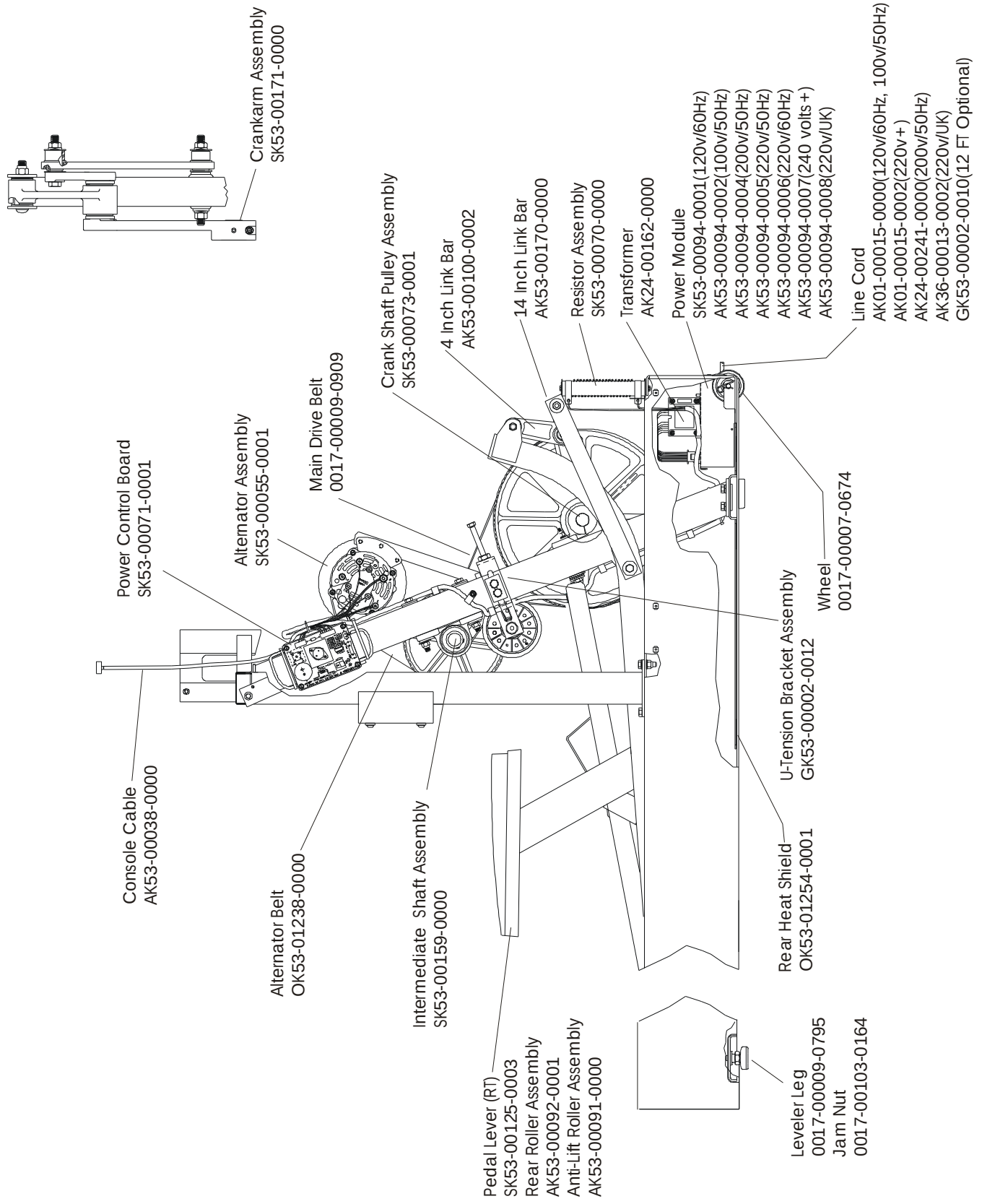
Rear Roller Asssembly
AK53-00092-0001

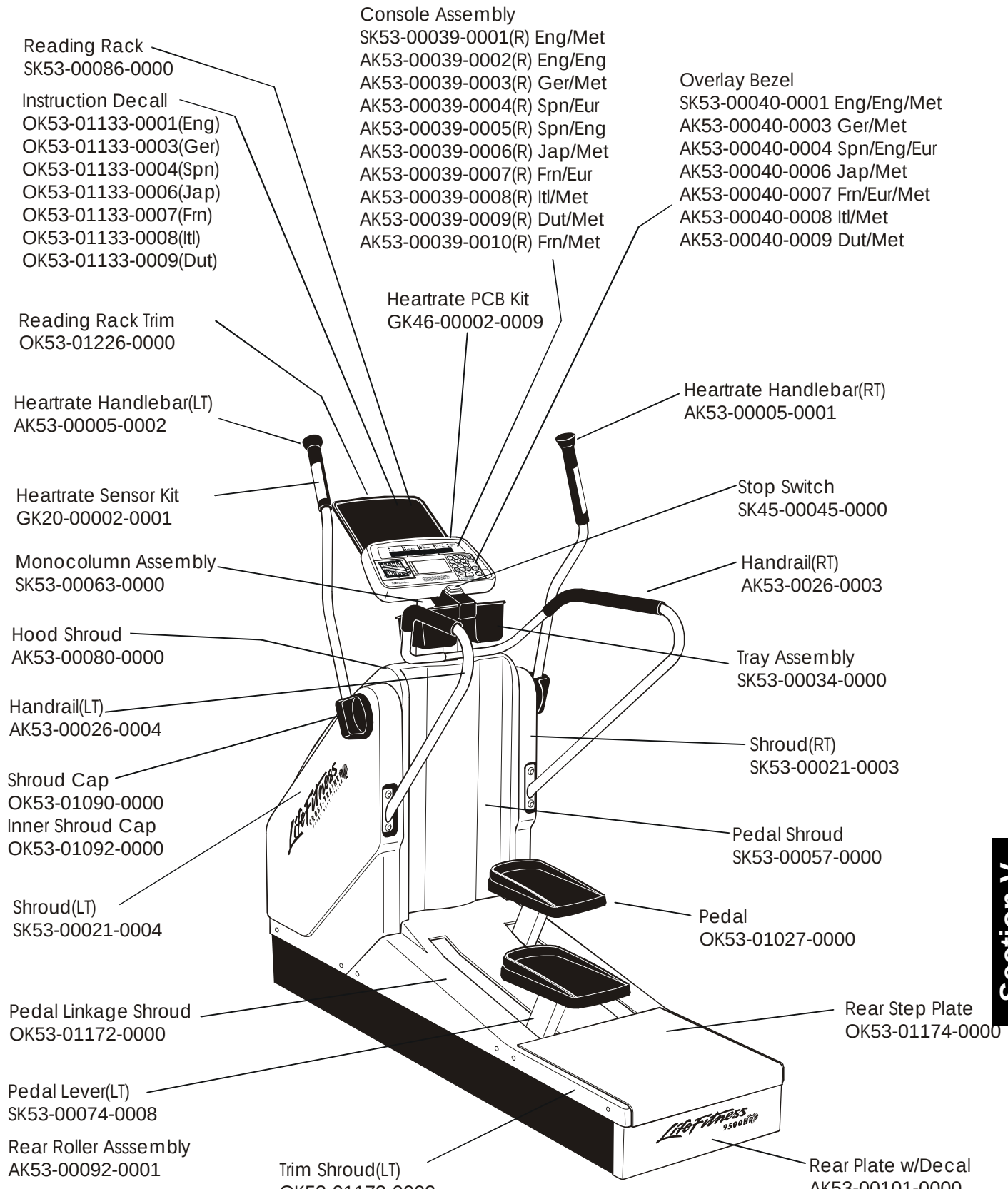
Anti-Lift Roller Assembly
AK53-00091-0000

Trim Shroud(LT)
OK53-01173-0002
Trim Shroud(RT)
OK53-01173-0001

Rear Plate w/Decal
AK53-00121-0000

GK53-00014-XXXX
Serial Number 665000 - 669723

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Instruction Decall
OK53-01133-0001(Eng)
OK53-01133-0003(Ger)
OK53-01133-0004(Spn)
OK53-01133-0006(Jap)
OK53-01133-0007(Frn)
OK53-01133-0008(Itl)
OK53-01133-0009(Dut)
Console Assembly
SK53-00039-0001(R) Eng/Met
AK53-00039-0002(R) Eng/Eng
AK53-00039-0003(R) Ger/Met
AK53-00039-0004(R) Spn/Eur
AK53-00039-0005(R) Spn/Eng
AK53-00039-0006(R) Jap/Met
AK53-00039-0007(R) Frn/Eur
AK53-00039-0008(R) Itl/Met
AK53-00039-0009(R) Dut/Met
AK53-00039-0010(R) Frn/Met
Overlay Bezel
SK53-00040-0001 Eng/Eng/Met
AK53-00040-0003 Ger/Met
AK53-00040-0004 Spn/Eng/Eur
AK53-00040-0006 Jap/Met
AK53-00040-0007 Frn/Eur/Met
AK53-00040-0008 Itl/Met
AK53-00040-0009 Dut/Met
Heartrate PCB Kit
GK46-00002-0009
Reading Rack Trim
OK53-01226-0000
Heartrate Handlebar(LT)
AK53-00005-0002
Heartrate Handlebar(RT)
AK53-00005-0001
Heartrate Sensor Kit
GK20-00002-0001
Stop Switch
SK45-00045-0000
Monocolumn Assembly
SK53-00063-0000
Handrail(RT)
AK53-0026-0003
Hood Shroud
AK53-00080-0000
Tray Assembly
SK53-00034-0000
Handrail(LT)
AK53-00026-0004
Shroud(RT)
SK53-00021-0003
Shroud Cap
OK53-01090-0000
Inner Shroud Cap
OK53-01092-0000
Pedal Shroud
SK53-00057-0000
Shroud(LT)
SK53-00021-0004
Pedal
OK53-01027-0000
Pedal Linkage Shroud
OK53-01172-0000
Rear Step Plate
OK53-01174-0000
Pedal Lever(LT)
SK53-00074-0008
Rear Roller Asssembly
AK53-00092-0001
Anti-Lift Roller Assembly
AK53-00091-0000
Trim Shroud(LT)
OK53-01173-0002
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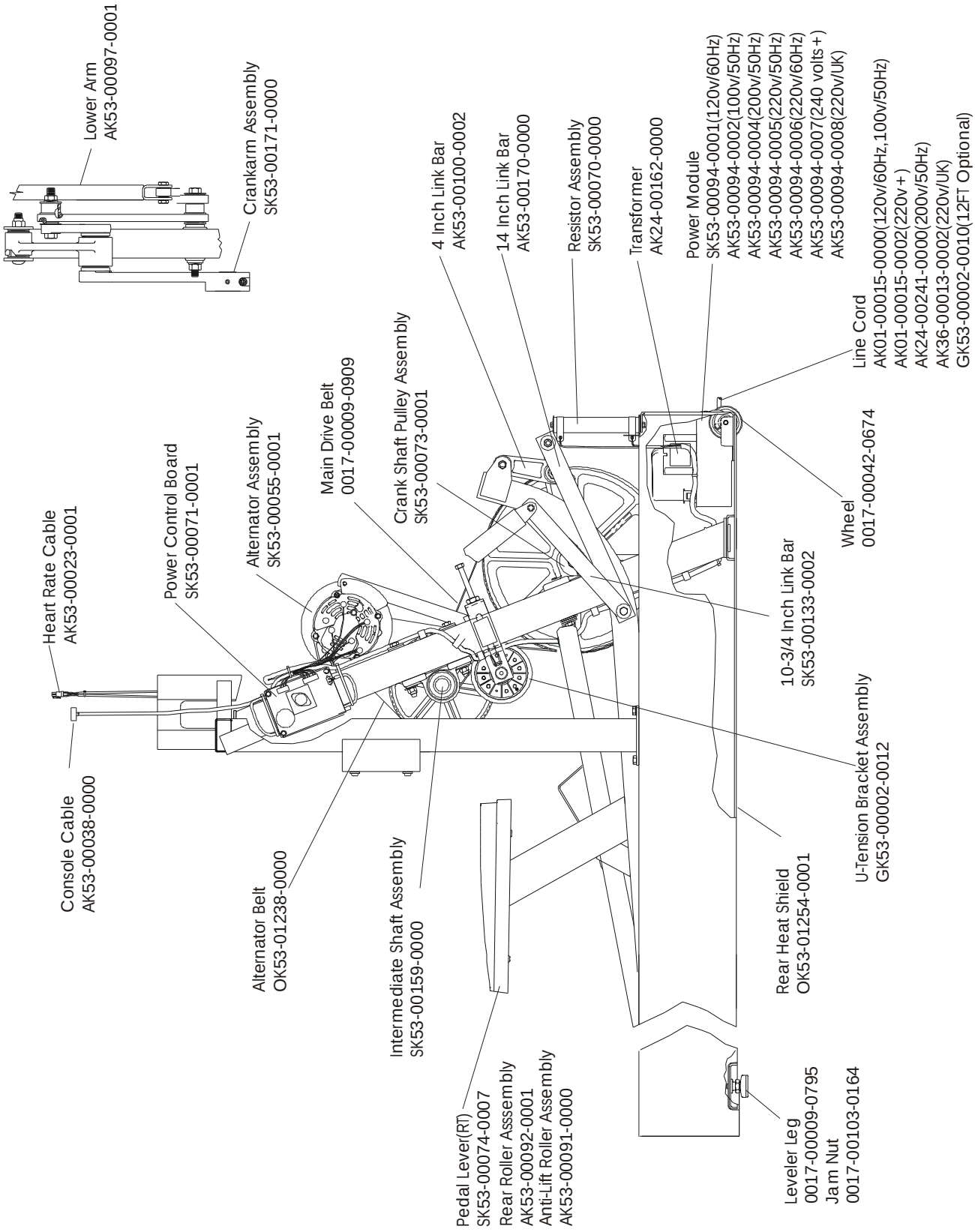
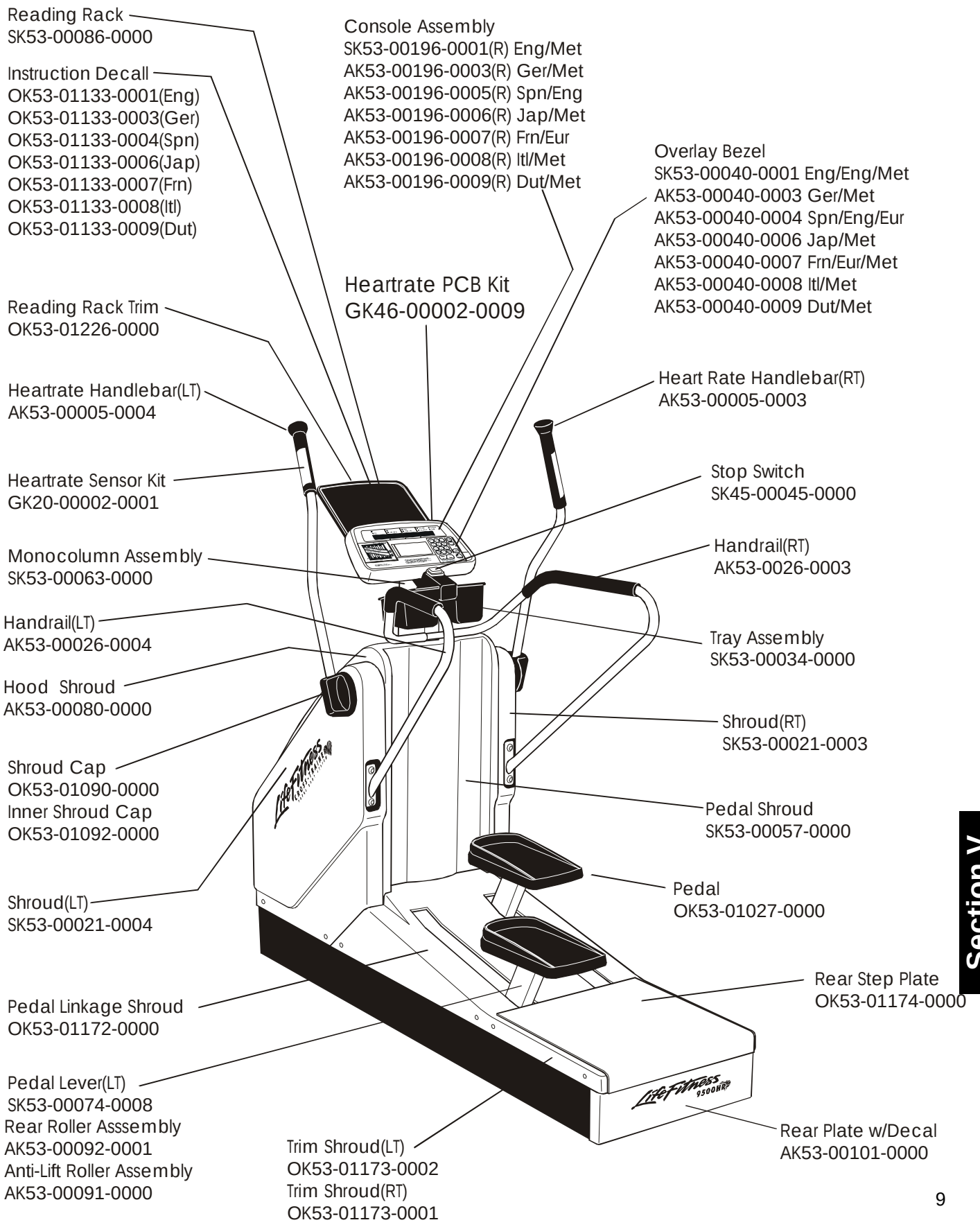
Rear Plate w/Decal
AK53-00101-0000

GK53-00013-XXXX
Serial Number 685000 - UP




Reading Rack
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Instruction Decall
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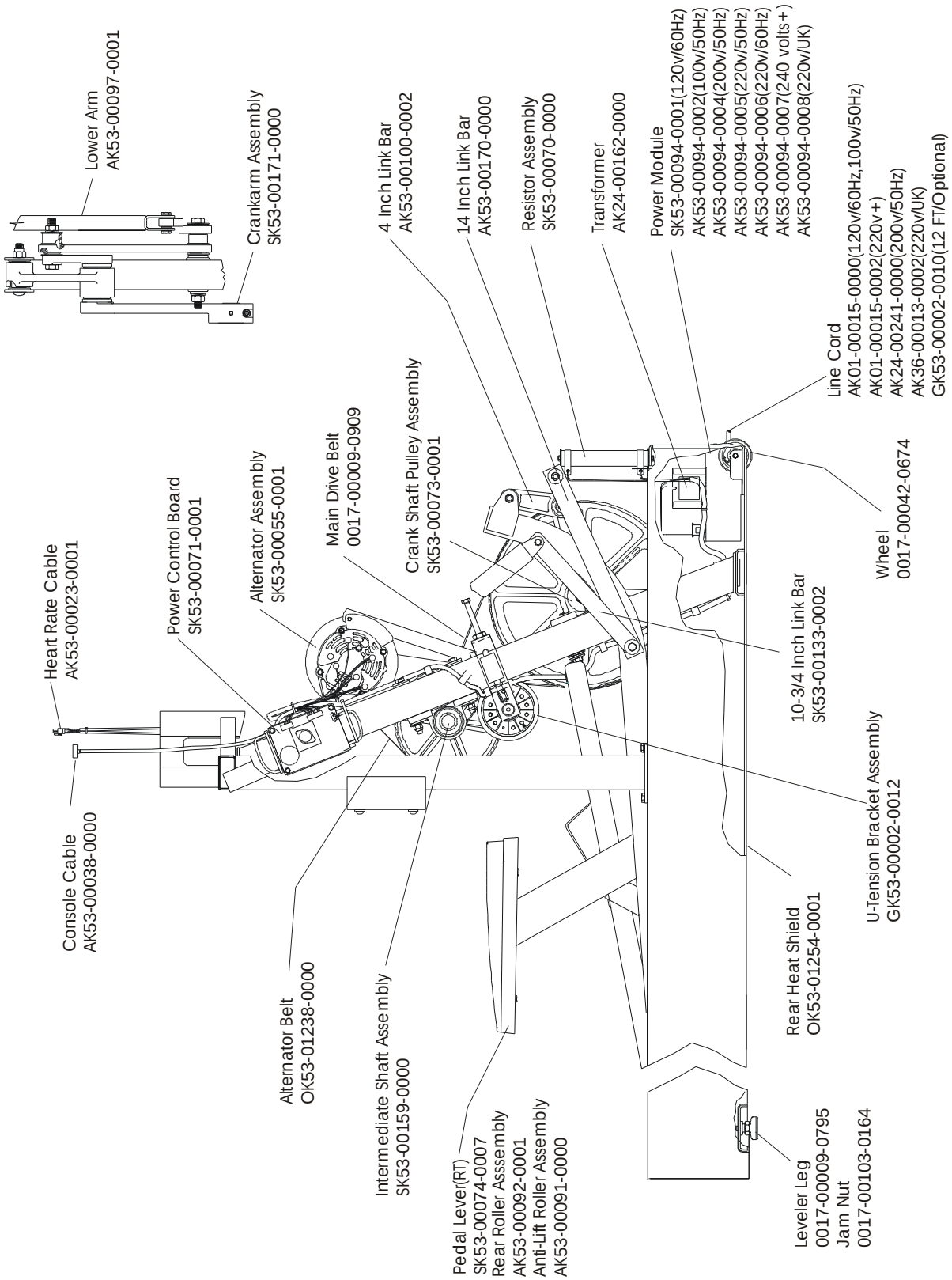
OK53-01133-0003(Ger)
OK53-01133-0004(Spn)
OK53-01133-0006(Jap)
OK53-01133-0007(Frn)
OK53-01133-0008(Itl)
OK53-01133-0009(Dut)
Console Assembly
SK53-00196-0001(R) Eng/Met
AK53-00196-0003(R) Ger/Met
AK53-00196-0005(R) Spn/Eng
AK53-00196-0006(R) Jap/Met
AK53-00196-0007(R) Frn/Eur
AK53-00196-0008(R) Itl/Met
AK53-00196-0009(R) Dut/Met
Overlay Bezel
SK53-00040-0001 Eng/Eng/Met
AK53-00040-0003 Ger/Met
AK53-00040-0004 Spn/Eng/Eur
AK53-00040-0006 Jap/Met
AK53-00040-0007 Frn/Eur/Met
AK53-00040-0008 Itl/Met
AK53-00040-0009 Dut/Met
Heartrate PCB Kit
GK46-00002-0009
Reading Rack Trim
OK53-01226-0000
Heartrate Handlebar(LT)
AK53-00005-0004
Heart Rate Handlebar(RT)
AK53-00005-0003
Heartrate Sensor Kit
GK20-00002-0001
Stop Switch
SK45-00045-0000
Monocolumn Assembly
SK53-00063-0000
Handrail(RT)
AK53-0026-0003
Handrail(LT)
AK53-00026-0004
Tray Assembly
SK53-00034-0000
Hood Shroud
AK53-00080-0000
Shroud(RT)
SK53-00021-0003
Shroud Cap
OK53-01090-0000
Inner Shroud Cap
OK53-01092-0000
Pedal Shroud
SK53-00057-0000
Pedal
OK53-01027-0000
Shroud(LT)
SK53-00021-0004
Rear Step Plate
OK53-01174-0000
Pedal Linkage Shroud
OK53-01172-0000
Pedal Lever(LT)
SK53-00074-0008
Rear Roller Asssembly
AK53-00092-0001
Anti-Lift Roller Assembly
AK53-00091-0000
Trim Shroud(LT)
OK53-01173-0002
Trim Shroud(RT)
OK53-01173-0001
Rear Plate w/Decal
AK53-00101-0000


Lower Arm
AK53-00097-0001
Crankarm Assembly
SK53-00171-0000
4 Inch Link Bar
AK53-00100-0002
14 Inch Link Bar
AK53-00170-0000
Resistor Assembly
SK53-00070-0000
Transformer
AK24-00162-0000
Power Module
SK53-00094-0001(120v/60Hz)
AK53-00094-0002(100v/50Hz)
AK53-00094-0004(200v/50Hz)
AK53-00094-0005(220v/50Hz)
AK53-00094-0006(220v/60Hz)
AK53-00094-0007(240 volts+)
AK53-00094-0008(220v/UK)
Line Cord
AK01-00015-0000(120v/60Hz,100v/50Hz)
AK01-00015-0002(220v+)
AK24-00241-0000(200v/50Hz)
AK36-00013-0002(220v/UK)
GK53-00002-0010(12 FT/Optional)
Heart Rate Cable
AK53-00023-0001
Power Control Board
SK53-00071-0001
Alternator Assembly
SK53-00055-0001
Main Drive Belt
0017-00009-0909
Crank Shaft Pulley Assembly
SK53-00073-0001
Wheel
0017-00042-0674
10-3/4 Inch Link Bar
SK53-00133-0002
Console Cable
AK53-00038-0000
Alternator Belt
OK53-01238-0000
Intermediate Shaft Assembly
SK53-00159-0000
U-Tension Bracket Assembly
GK53-00002-0012
Rear Heat Shield
OK53-01254-0001
Pedal Lever(RT)
SK53-00074-0007
Rear Roller Asssembly
AK53-00092-0001
Anti-Lift Roller Assembly
AK53-00091-0000
Leveler Leg
0017-00009-0795
Jam Nut
0017-00103-0164

NOTES:

SECTION VI

MISCELLANEOUS INFORMATION

Life Fitness Model 9500 Series Cross-Trainers

PREVENTIVE MAINTENANCE TIPS

ITEM	WEEKLY	MONTHLY	QUARTERLY	BI-ANNUAL	ANNUAL
Shrouds	Wipe Clean				
Stop Switch	Inspect For Proper Operation				
Power Control Board					Vacuum
Drive Belt				Inspect and Retension	
Power Cord	Inspect For Excessive Wear				
Display Console	Wipe Clean	Inspect For Proper Cable Connection			
Handlebar and Handrail	Wipe Clean			Inspect For Loose Bolts and Retighten	
Rear Roller and Tracks			Wipe Clean	Inspect For Excess Wear	
Link Bearings			Wipe Clean	Inspect For Excess Wear	
Alternator Belt				Inspect and Retighten	
Level Machine	Inspect and Relevel				
1-2 Drops 30 Weight Non-Detergent Oil				All Bearings	

UNPACKAGING INSTRUCTIONS

1. Remove all staples from the corrugated shipping container and fold down the four sides of the base tray (A).

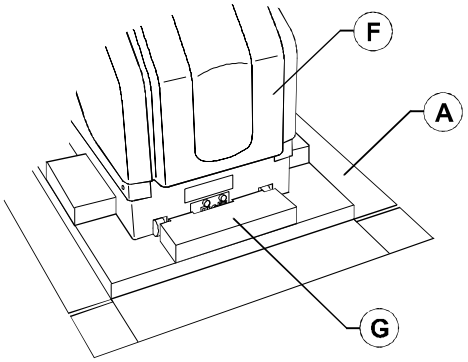
2. Lift and open the top flaps of the shipping container sleeve (B). Lift and remove the four corner posts (C). Lift and remove the top support (D) and the side supports (E).

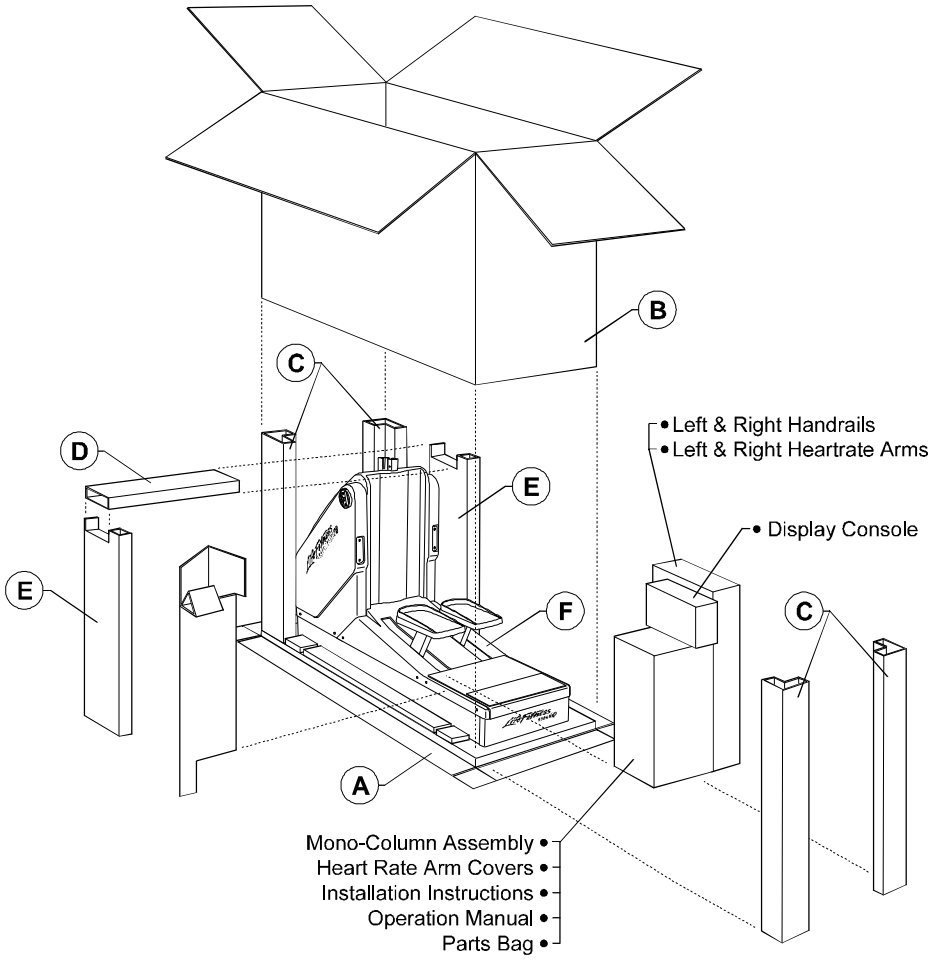
3. With the help of another person, carefully lift the shipping container sleeve (B) up and off of the base tray (A) and over the Cross-Trainer (F). Remove the remaining boxes and packaging from the Cross-Trainer deck and set aside.

4. Remove the protective plastic sheet covering the Cross-Trainer (F).

5. Remove the glued-in block (G) located in front of the Cross-Trainer on the base tray (A). With the help of another person, lift the rear of the unit and roll the unit forward beyond the flattened base tray.

6. Follow Installation Instructions included in the parts bag to complete the assembly of your Cross-Trainer.





SAVE YOUR PACKING MATERIAL IN CASE OF RETURN

COMMUNICATING BY FAX

If you would like to submit a parts order, or if you need help troubleshooting a problem, we have included, for your convenience, a FAX form on the following page. Simply make a copy (or copies) of the FAX sheet and fill in the necessary information. You may FAX us at any time, 24 hours a day, to either of the numbers shown. A Life Fitness service representative will process your order, or respond to your problem, as quickly as possible.

LifeFax

CUSTOMER SUPPORT SERVICES

☐ **PARTS ORDER** *(IF BOTH PLEASE INDICATE)* ☐ **SALE**

☐ **PRODUCT TROUBLESHOOTING** ☐ **WARRANTY**

NAME:	CUSTOMER NO:	DATE:
PHONE:	FAX:	CONTACT NAME:

METHOD OF SHIPMENT: ☐ **1 DAY** ☐ **2 DAY** ☐ **GROUND**

PARTS ORDER FORM

ITEM NO.	PART NUMBER	DESCRIPTION	QUANTITY
1			
2			
3			
4			
5			
6			

PRODUCT TROUBLESHOOTING

PRODUCT NAME:	SERIAL NO.
DETAILED DESCRIPTION OF PROBLEM:	
PRODUCT NAME:	SERIAL NO.
DETAILED DESCRIPTION OF PROBLEM:	

TIME RECEIVED:	TIME COMPLETED:	TECHNICIAN NAME:

NOTES: